HIGHER AUTHORITY
The inspector general at the DHS says CIO Scott Charbo needs more clout and resources. **PAGE 4**

MIND MATTERS
Leadership skills are less important than developing a managerial mind-set, says Paul Glen. **PAGE 39**

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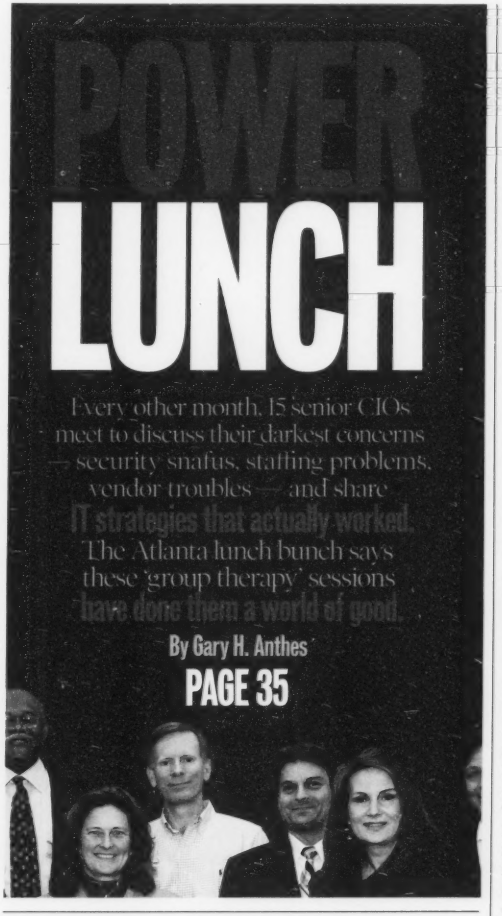
JANUARY 9, 2006 ■ VOL. 40 ■ NO. 2 ■ $5/COPY


POWER
LUNCH
Every other month, 15 senior CIOs meet to discuss their darkest concerns — security snafus, staffing problems, vendor troubles — and share IT strategies that actually worked. The Atlanta lunch bunch says these 'group therapy' sessions have done them a world of good.
By Gary H. Anthes
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Microsoft Releases Fix for WMF Flaw Ahead of Schedule

Says user pressure influenced decision to change course

BY JAIKUMAR VIJAYAN

Citing "very strong customer sentiment" and an earlier-than-expected wrap-up of testing work, Microsoft Corp. last week released a patch for a flaw in a Windows image-processing module after initially saying the fix wouldn't be issued until tomorrow.

Microsoft's reversal of course on Thursday came as malicious hackers ratcheted up their attempts to exploit the flaw and IT managers and security analysts differed on whether corporate users should install an unofficial third-party fix or wait for the software vendor's patch.

MORE INSIDE

DEBBY FRY WILSON, director of Microsoft's Security Response Center, says all the "chatter" about vulnerabilities such as the WMF flaw makes it hard for users to decide whose advice they should trust. PAGE 16

Some IT executives interviewed by *Computerworld* said that before Microsoft issued the patch, they were in a quandary over how best to protect their systems against the Windows Metafile flaw.

"We frankly don't know quite what to do," said Matt Kesner, chief technology officer at Fenwick & West LLP. "To use the old colloquialism, we are damned if we do and damned if we don't."

Waiting until this week for Microsoft's patch could have exposed the Mountain View, Calif.-based law firm's systems to exploits targeting the WMF vulnerability, Kesner said. Fenwick & West's IT staffers were unsure whether the workaround procedures initially suggested by Microsoft would have provided sufficient protection, he said.

But, Kesner added, install-

WMF Fix, page 16

IT Uses Web Services to Expose Apps to Outsiders

Technology eases sharing of data beyond firewalls

BY HEATHER HAVENSTEIN

Buoyed by the opportunity to easily and safely share data with customers and partners, IT organizations are increasingly exposing internal applications and data outside their corporate firewalls as Web services.

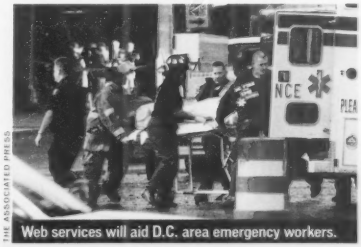
The District of Columbia, for example, on March 1 will go live with a new system that uses Web services to help emergency command centers in Washington and surrounding areas coordinate responses in the event of natural disasters and terrorist attacks.

The CapStat system is being built on a service-oriented architecture that uses Web services to allow command centers in five jurisdictions in Washington, Virginia and Maryland to exchange essential information.

The centers will share data such as citizen reports of power outages, updated inventories of emergency response vehicles and the locations of people reporting suspicious disease symptoms.

Currently, emergency management officials in the Washington area communicate via telephone to share such information during a crisis, said Dan Thomas, who oversees the CapStat program. Thomas is also director of the DCStat program in the district's Office of the Chief Technology Officer.

Web Services, page 43



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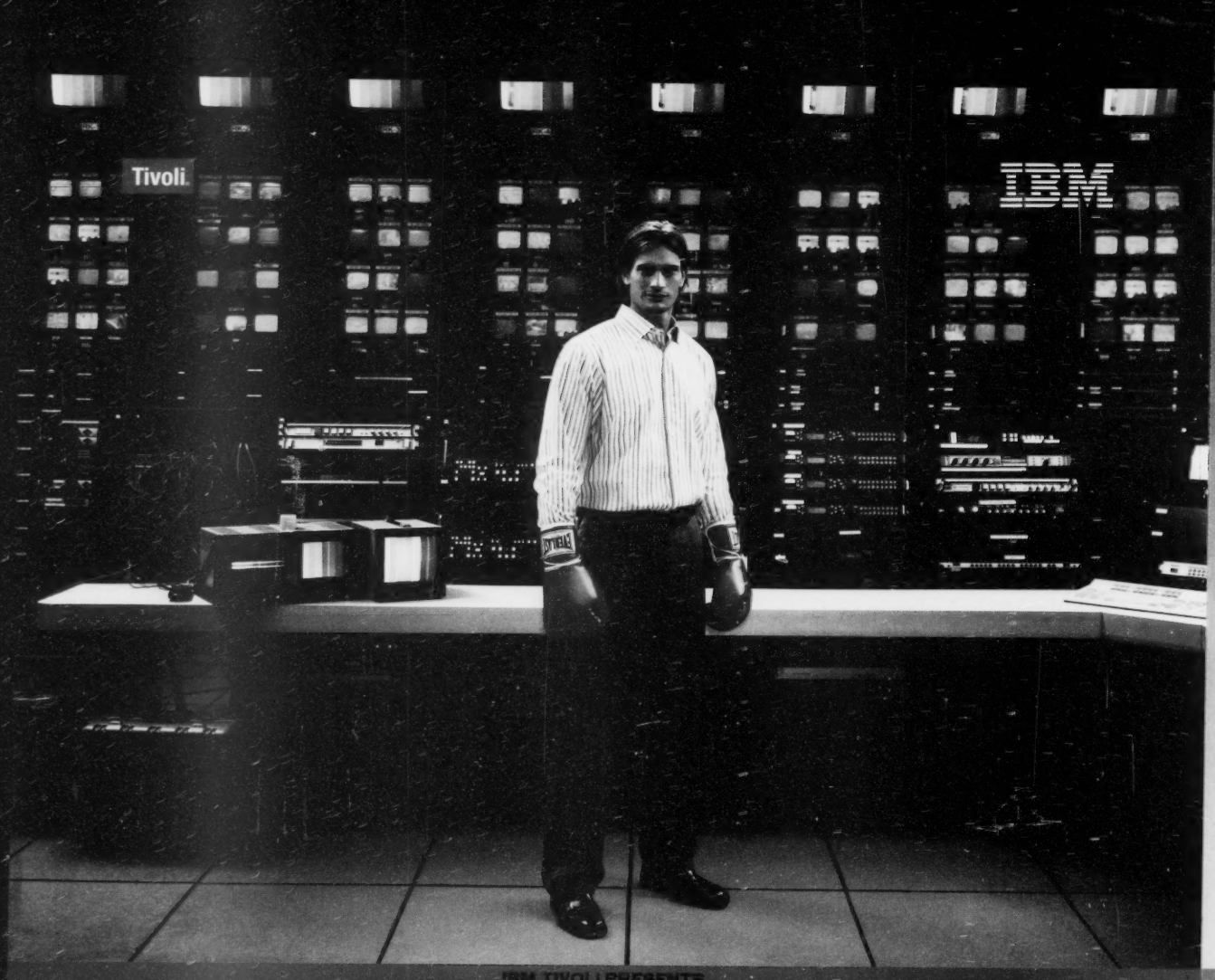
Web services will aid D.C. area emergency workers.



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01.09.06

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How Did I Miss That?

In the Management section: Decision-makers don't need all the information, but they need the right information, says Harvard Business School's Max H. Bazerman. In an interview, he explains how "bounded awareness" can make you miss crucial facts that are right under your nose. **Page 37**

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39 **Paul Glen** says skills don't make a leader; leadership grows from the mind and the heart.

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IT Blogwatch

If you don't know where to start with blogs or don't have enough time to sort through them, *Computerworld*'s IT Blogwatch is for you. Each weekday morning, Blogwatch highlights the best new IT blog posts on the Internet. **QuickLink a5930**

How to Use Microsoft's Encrypting File System

SECURITY: Applying the EFS within a domain and with a public-key infrastructure is complex. This tutorial explains how to use EFS in a Windows 2000 or Server 2003 domain. **QuickLink a7670**

Rich Internet Apps Pick Up Where HTML Stops

DEVELOPMENT: Technologies such as Flash, DHTML and AJAX bring the best of the desktop and the best of the Web together, says Sapient Corp.'s Robert Tekiela. **QuickLink a7660**

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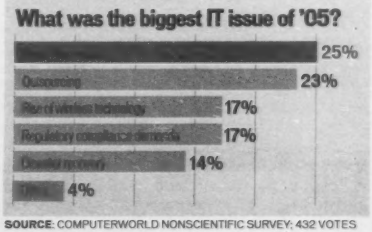

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AT DEADLINE

EMC Lays Off 1,000, Will Hire Even More

Storage giant EMC Corp. plans to lay off about 1,000 workers, or 4% of its workforce, during 2006. The company said it will take an $80 million fourth-quarter charge to cover the costs of the action. At the same time, EMC said it expects to increase its total head count this year as it adds staffers to its research and development efforts and worldwide sales and marketing operations. The layoffs will affect unspecified parts of EMC's global businesses, officials said.

Sun to Break Out Software Sales

A Sun Microsystems Inc. executive said the company plans to break out the financial results of its software business on its financial statements. Currently, Sun breaks out only systems, storage and services revenue. President and Chief Operating Officer Jonathan Schwartz would not disclose a timetable for the change, saying only that it will occur soon.

Outage Causes Delays for United

A four-hour computer outage affecting passenger ticketing, baggage check-in and printing of boarding passes caused delays of United Air Lines Inc. flights across the country early last week. Cendant Corp., which partners with IBM and others to provide IT services to United, could not provide details on what caused the problem.

Infor Adds Asset App Maker to Portfolio

Infor Global Solutions has agreed to acquire Datastream Systems Inc. for $216 million in cash. The maker of asset performance management software is the latest company that privately held Infor has acquired in its effort to create a line of enterprise applications. Alpharetta, Ga.-based Infor said it expects to retain most of Datastream's 600 employees.

DHS CIO Needs More Power, Agency's Chief Auditor Says

Report cites lack of clout, resources as threats to IT integration efforts

BY LINDA ROSENCRANCE

SCOTT CHARBO, CIO at the U.S. Department of Homeland Security, lacks the authority, influence and staff resources needed to accomplish the agency's goal of creating a unified IT infrastructure, according to a report issued by the DHS's inspector general.

Inspector General Richard Skinner wrote in the report that Charbo has outlined plans for a project known as the Information Technology Infrastructure Transformation Program, which is aimed at creating a secure but unclassified network and a common e-mail system for the sprawling agency.

Skinner noted that Charbo's plan includes consolidation of data centers as well as an overhaul of help desk operations and other support services.

But Charbo "is not well positioned to accomplish these IT integration objectives," Skinner claimed.

Despite federal laws and requirements, the CIO isn't a member of the DHS's senior management team and hasn't been given the authority to manage its technology assets and programs on an agency-wide basis, the report said.

In addition, Skinner wrote that although the DHS has started to formalize reporting relationships between Charbo and the CIOs of its major units, Charbo still doesn't have sufficient resources for planning, policy formation and other IT management activities.

The inspector general recommended that the DHS follow the examples of other federal agencies that he said have given their CIOs enough power and clout to guide decisions on all of their IT investments and strategies.

Excerpt

> **"The DHS CIO is not well positioned to accomplish [the agency's] IT integration objectives. . . . The CIO is not a member of the senior management team with the authority to strategically manage departmentwide technology assets and programs."**
>
> FROM A REPORT ISSUED BY DHS INSPECTOR GENERAL RICHARD SKINNER

Charbo couldn't be reached Friday for comment on Skinner's findings and recommendations.

In a written response that was included in the report, DHS officials disagreed with Skinner's conclusions, saying that Charbo believes the central CIO's office "is properly positioned and has the authority to accomplish its mission."

According to the response, Charbo has organized the IT integration effort into five separate project areas covering network, e-mail, help desk, data center and video services. In addition to overseeing the transformation program, he "is the principal IT authority to the [agency's] secretary and deputy secretary, and . . . will continue to hold that leadership role," the DHS said.

The DHS could not be reached for comment.

Management Challenges

The ongoing integration work is designed to combine more than 20 stand-alone IT setups within the DHS into a cohesive infrastructure that provides more effective communications and information-sharing capabilities at various data-classification levels.

Skinner's comments about Charbo were included in a rundown of the major management challenges facing the DHS. The inspector general last month publicly detailed the various challenges that his staff had identified, releasing an excerpt from a larger report on the agency's performance and accountability over the course of the government's 2005 fiscal year.

IT security also was cited as a major challenge. Skinner credited the DHS with completing an inventory of its major applications and support systems and implementing a security certification and accreditation tool for systems throughout the agency.

But he said that parts of the DHS still haven't fully aligned their information security programs with the agency's overall policies and procedures. Charbo's office has developed a plan to get all systems accredited by September and is working to make DHS components more accountable on security, Skinner noted.

MORE NEWS ONLINE

Unisys was awarded a new contract for IT services at DHS headquarters and the Transportation Security Administration.
QuickLink a7710
www.computerworld.com

Internal DHS Watchdogs Take a Close Look at IT

IN THE FISCAL 2006 performance plan for his office, DHS Inspector General Richard Skinner said that more than 12 audits of IT programs and operations will be conducted during the course of the year.

For example, the IT auditors within Skinner's office will look at whether existing security controls are effective in protecting personal information stored in the systems that support the DHS's Transportation Worker Identification Credential program. Under that program, some workers are issued identification cards that give them clearance to visit secure areas of the U.S. transportation system without an escort, as well as access to computers used in transportation security efforts.

The auditing plan for fiscal 2006, which began last Oct. 1, was released separately from the report excerpt that detailed the management challenges faced by the DHS.

Skinner said other audits related to IT security will include an evaluation of whether the agency has established adequate controls over its Automated Commercial Environment trade-processing system, which is used by the U.S. Customs and Border Protection unit to collect, process and analyze commercial import and export data. The inspector general also wants to determine whether the agency has created adequate policies and procedures to safeguard laptop PCs and the data that is stored on them.

In addition, the DHS auditors will review the agency's IT integration strategy and implementation efforts and look at whether it has effectively managed the use of radio frequency identification technology, Skinner said.

And in the wake of the information-sharing problems that hampered relief efforts after Hurricane Katrina hit the Gulf Coast last August, the inspector general's office plans to evaluate how effective the DHS has been at ensuring effective communication to support future disaster response and recovery work.

– LINDA ROSENCRANCE

NASA Testing In-house System for Analyzing Space Station Health

Web services, EII technology improve information aggregation, officials say

BY HEATHER HAVENSTEIN

NASA is testing an application that uses Web services and enterprise information integration (EII) technology to aggregate data from disparate sources in order to diagnose and resolve problems detected on the International Space Station.

Flight controllers and engineers have been testing the new Systems Health Information Portal (SHIP) at the Johnson Space Center in Houston over the past three months. Officials have not decided when SHIP will go into production.

The internally built software is designed to help ground crews more quickly access and analyze data — including current sensor readings, historical sensor readings and other technical documents — that's often housed in disparate data-storage systems, NASA officials said.

The space station's initial components were launched in 1998, and it has housed astronauts since 2000. Its complexity often forces ground crews to cull through large amounts of data to determine the cause of anomalies, said Ronald Mak, senior computer scientist and an enterprise architect at the University of California, Santa Cruz. Mak was hired by NASA to work on its internal SHIP development team.

'Virtual Views'

SHIP was built in nine months using Borland Software Corp.'s JBuilder Enterprise Edition tool set and Sun Microsystems Inc.'s Java Studio Creator. The application sends Web services messages through BEA Systems Inc.'s WebLogic application server to query back-end data sources when astronauts report an anomaly onboard the International Space Station, Mak said.

SHIP uses San Mateo, Calif.-based Composite Software Inc.'s EII server to quickly integrate data housed in different formats in various back-end data sources, he said.

"The files could be in ASCII format, in various legacy formats, and they could be binary or XML-based," said Mak.

The Composite Information Server takes the data from the various sources and formats and builds "virtual views" that can be used to diagnose and analyze space station problems, he said. By accessing multiple data sources, Mak added, "we can do joins and comparisons — things people used to do by cutting and pasting data into spreadsheets."

NASA

AFTER THREE MONTHS of testing, NASA has not yet determined when its SHIP analysis technology will go live in the International Space Station.

Rick Alena is a computer engineer in the intelligent systems division at NASA's Ames Research Center in Mountain View, Calif., and leader of the SHIP development team. He noted that EII technology helps mission controllers aggregate large amounts of information and cross-reference that data with other sources

"As you analyze events and go into problem resolution, you find cases or examples of similar types of events and use those to help guide you," Alena said. "[SHIP] is simply a way of allowing people to make diagnoses and institute the required recovery rather quickly."

Although the space station will be the initial testbed for SHIP, developers hope it can also monitor the health of other space vehicles, including the crew exploration vehicle, the proposed replacement for the space shuttle, Alena added.

Jason Bloomberg, an analyst at ZapThink LLC in Waltham, Mass., said that organizations building service-oriented architectures that need Web services accessing real-time data often turn to EII tools rather than build data warehouses to address data-integration problems. With EII tools, companies can leave data in source systems instead of using extract, transform and load tools to send summary views of data that might not be up to date in warehouses, he added.

"If you leave stuff in the original data sources, it is always current," Bloomberg said. "In NASA's case, they need to make sure they get real-time, complete data." ▸

GM Drives Dealers Toward Integrated Business Systems

BY PATRICK THIBODEAU

General Motors Corp. wants its dealers to install new IT systems that, if widely adopted, would give the automaker benefits such as improved insight into the spare-parts inventories at dealerships.

In an attempt to encourage dealers to make the move, GM last week said it plans to give them a choice between systems from two handpicked vendors — each of which will provide data integration with GM's own business systems, according to company officials.

GM will let its 8,150 North American dealers choose between dealer management systems developed by The Reynolds and Reynolds Co. in Kettering, Ohio, and Quorum Information Technologies Inc. in Calgary, Alberta. GM also said it has signed a deal with Reynolds to supply all 440 of its Saturn retailers in the U.S. with dealer management software starting next year.

The agreements are part of GM's Integrated Dealer Management System (IDMS) program, which is aimed at providing dealers with software that is similar to an ERP system and can work with GM's internal systems.

Robert Ernst, IT manager at Mike Castrucci Chevrolet-Oldsmobile Inc. in Milford, Ohio, is already using a Reynolds-supplied dealer management system running on Windows, and he upgraded to a version with some of the new IDMS capabilities about six weeks ago.

Ernst said the IDMS approach enables GM to see what parts are available in the inventories of dealers, "just like Wal-Mart" can with its suppliers. He said it should also reduce GM's shipping costs because the company will be able to better anticipate when inventories of a particular part need to be replenished.

Nick Bell, process information officer for vehicle sales, services and marketing at GM North America, said dealers currently use a range of management systems. GM hopes to reduce that through the IDMS offering, Bell said, although dealers won't be required to move to a system from Reynolds or Quorum.

Bell said that through the IDMS project and a multiyear effort to put Web front ends on its legacy systems, the company wants to enable "shared visibility" into its systems and those of its dealers, "so we can build more intelligence into their parts ordering."

GM, which in late 2000 pulled out of a proposed investment and software development deal with Reynolds, began evaluating products for the IDMS program two years ago. The automaker isn't disclosing the level of IT and inventory management cost savings that it expects to get as a result of the IDMS strategy.

Hiro Mori, an analyst at The Automotive Consulting Group Inc. in Ann Arbor, Mich., said persuading dealers to use the dealer management system is only one challenge GM is facing. For example, it also needs parts to be made at the right time in factories.

SYSTEMS INTEGRATION

IDMS

Key details about GM's Integrated Dealer Management System program:

- GM said it reviewed and analyzed all business processes and activities used at dealerships.
- IDMS is designed to provide "seamless integration of data" between dealer and GM systems.
- Deliveries of IDMS-compliant dealer systems are due to formally begin next month.
- Reynolds and Reynolds said it expects to start separate rollouts to Saturn retailers in August 2007.

The deals with Reynolds and Quorum are unrelated to the approximately $15 billion in IT outsourcing agreements that GM is expected to enter into later this month. Electronic Data Systems Corp. now handles about two-thirds of GM's outsourced IT services, but GM is expected to award 40 or so outsourcing contracts to multiple vendors. ▸

BRIEFS

Mercury Delisted From Nasdaq

Shares of Mercury Interactive Corp. have been removed from the Nasdaq Stock Market because the software maker failed to file financial reports. Several top Mercury executives resigned in November after an investigation by the company's directors into the software maker's accounting showed a pattern of incorrect reporting of stock-option grants. Losing the Nasdaq listing could hinder Mercury's efforts to overcome the scandal.

AMD, Rambus Sign $75M License Pact

Advanced Micro Devices Inc. has signed a five-year, $75 million patent license agreement with Rambus Inc. Under the deal, Rambus will provide AMD with a license for patents used in the design of memory and logic controller interfaces. The license is separate from earlier agreements. Rambus also has long-standing agreements with Intel Corp.

EMC Finalizes $275M Captiva Acquisition

EMC Corp. has completed its $275 million purchase of document capture software vendor Captiva Software Corp. Captiva will become part of EMC's software group and continue to be managed by Reynolds Bish, previously Captiva's president and CEO. Under an agreement prior to the acquisition, the two companies had integrated Captiva's InputAccel software into EMC's Documentum suite.

RSA Completes Cyota Acquisition

RSA Security Inc. has completed its $145 million acquisition of privately held Cyota Inc., a maker of online security and antifraud systems for financial institutions. RSA officials projected that the addition of Cyota will add approximately $22 million to $25 million in revenue in 2006. The move brings a risk-based authentication line to RSA's product portfolio.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Software Pricing Frustrates and . . .

. . . infuriates IT buyers. Jim Geisman, president of MarketShare Inc. in Wayland, Mass., argues that users and vendors are at odds over product pricing strategies. "Vendors have a narrow view of a product," he says. "They see features and functions, but there's more that goes with it, like reliability and, of course, pricing." Geisman, whose company advises vendors on how much to charge for a product or service, says IT buyers "are tired of the existing pricing model." That's because vendors make it tough for corporate users to compare one vendor's offering with another's in terms of price, he claims. Without comparable pricing models to consider when buying software, Geisman says, "it's as if it were a car without a speedometer. You don't really know the value." Utility pricing holds some hope for the future, he says. But for now, he quips, "it's like teenage sex: Everyone's talking about it, but no one's doing it and no one's good at it."

CHAPMAN: CIOs should look at ownership costs and use software license escrow accounts.

Ed Chapman, managing director of VizQuest Ventures LLC in Waltham, Mass., says there are a few things CIOs can do to mitigate the vagaries of vendor pricing models. First, he suggests, demand to see a three-to-five-year total cost of ownership analysis. "That helps even things out between competing pricing models," Chapman says. You can also put money in escrow for software that can be released to your vendor over time as total cost of ownership, performance or other metrics are reached. Chapman, whose firm sells tools designed to help monitor and improve the performance of sales forces, says he agrees with Geisman that vendors "need to transform their pricing models."

The cost-reduction mentality of CFOs . . .

. . . can stifle IT's contribution to business growth. The adherents to that point of view include Scott Grau, vice president and general manager of research and development at NCR Corp.'s Teradata division in Dayton, Ohio. Grau says he worries that because so many CIOs report to chief financial officers "who only know how to take out costs," it's tough for top IT executives to spearhead the deployment of new business analysis tools that can help fuel growth. "How do you invest in the IT infrastructure and the analytics," Grau wonders, "without having a cost take-out component?" It's not easy, so many business managers may go around the CFO-bound CIO and try to do it themselves, he says. That's a mistake, because a CIO is more likely to get it right, while, say, the marketing department is likely to duplicate infrastructure work and be less successful without IT's help, Grau argues. He notes that many CFOs have their IT underlings "committed to keep the lights on," leaving them able to spend only "a fraction of their time devoted to new, creative technology." One possible strategy that Grau suggests is for CIOs to form alliances with sales and marketing executives on IT initiatives to thwart skinflint CFOs. Although that's a risky career strategy, it may be the best one for the business.

23% Portion of CIOs who report to CFOs, says *Optimize* magazine.

However, CFOs do want you to . . .

MOJICA: claims that AXS-One can archive 1TB of data every 24 hours.

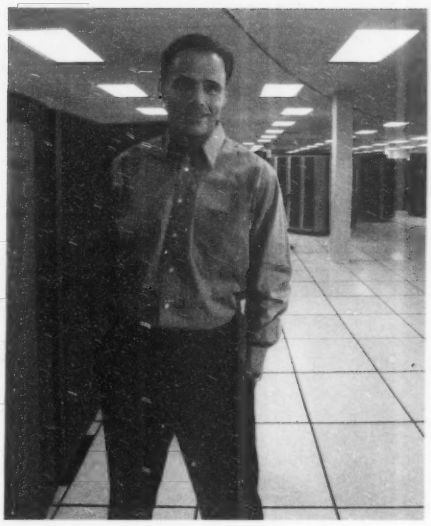
. . . invest in compliance tools. That's to help keep them out of jail, of course. But indexing and archiving every possible scrap of data that later may need to be audited for compliance with the Sarbanes-Oxley Act and U.S. Securities and Exchange Commission regulations isn't easy. Peter Mojica, vice president of product management at Rutherford, N.J.-based AXS-One Inc., claims that his company's namesake compliance management software can archive up to 1TB of data every 24 hours with full-text indexing. He says you can set rules to index critical data in real time, while the rest of your information can be stamped for indexing off-line over time. The indexed data is stored serially and segmented by time periods for easy retrieval. Currently, AXS-One's software runs on Windows and Solaris servers. By Q3 of this year, the full product will also be available on Linux systems, Mojica says. Pricing is implementation-specific.

All-in-one storage packs backup . . .

. . . tools with dual-CPU server. Breece Hill LLC in Louisville, Colo., sells its iStora G3 system with a 10-tape autoloader for up to 4TB of archived data, eight 400MB RAID disks, redundant power supplies and a full Intel-based server with dual Xeon or Pentium 4 processors. CEO Robert Schaefer says that rolling everything into an integrated machine instead of trying to tie together disparate hardware "eliminates doing a science experiment on the customer floor." Schaefer claims that the G3 system is ideal for midsize companies as well as large branch offices that need to archive data locally. By year's end, it will sport 500MB drives, he says. Prices start at $23,000.

iStora saves users from "doing a science experiment," says Breece Hill's Robert Schaefer.

All Types of IT



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CNL Financial Updates Disaster Recovery Plan

Firm also adds encryption to protect backups

BY LUCAS MEARIAN

AFTER MULTIPLE brushes with hurricanes in recent years, Orlando-based CNL Financial Group Inc. over the past year changed its storage strategy to improve disaster recovery and data security.

The company moved first to protect 82 Wintel production servers by mirroring their mission-critical data out of state and encrypting any data shipped off-site.

The storage effort has also added the use of Internet SCSI protocols with CNL's Microsoft Exchange servers to increase mailbox sizes while cutting the cost and complexity of direct-attached storage.

The storage project was completed late last year.

The new architecture has increased Exchange uptime to 99.8%, reduced e-mail restores to 10 minutes or less, and reduced full backup and recovery times from two days to eight hours, said Joel Schwalbe, vice president of technical services at CNL Financial.

Schwalbe said the company decided to mirror data from Orlando to a hot site in Atlanta after reports that other financial services firms were unable to bring systems back up quickly after disasters.

In the past, he said, data was backed up on tape and then sent "off to a disaster recovery vendor, with the hope that they could rebuild our systems within 48 hours. We quickly learned the human factor that was involved wasn't something you could plan on."

> **We quickly learned the human factor that was involved wasn't something you could plan on.**
>
> **JOEL SCHWALBE,** VICE PRESIDENT OF TECHNICAL SERVICES, CNL FINANCIAL GROUP, ON USING DISASTER RECOVERY VENDORS TO REBUILD SYSTEMS FROM TAPE BACKUPS

The company began mirroring the data shortly after the storage upgrade effort began, when it installed a Network Appliance Inc. FAS940 array running NetApp's SnapMirror software. The new system can perform block-level backup of data across dedicated Fibre Channel networks and Ethernet-based LANs through the use of iSCSI.

By moving off of direct-attached storage and onto a storage-area network using iSCSI, Schwalbe said, CNL quadrupled the amount of storage space on 1,400 Exchange mailboxes to 500MB each.

The new storage architecture has also improved reliability, he said. Prior to installing the NetApp array, the firm had three separate Exchange file servers that couldn't run for a week without problems cropping up, Schwalbe said.

"We use a lot fewer resources to manage the backups and restores than we did before. CNL probably cut the equivalent of a [full-time worker]," Schwalbe said.

On the Leading Edge

CNL is now replicating about 12TB of data daily to Atlanta, where it's stored on a NetApp NearStore R200 array, a nearline storage system based on ATA disk drives.

An encryption device was added to the CNL storage architecture about two months ago with the installation of a DataFort appliance from Redwood City, Calif.-based Decru Inc. in its Orlando data center. The appliance sits between CNL's NetApp array and a new linear tape library from Overland Storage Inc., Schwalbe said.

Schwalbe said that a 5% to 10% performance drop in CNL backups after encryption was added to the process is offset by the technology's ability to keep CNL from becoming "the next Citigroup," referring to Citigroup Inc.'s loss last June of data tapes containing information from the accounts of about 3.9 million customers.

John Webster, a storage analyst at Data Mobility Group LLC in Londonderry, N.H., said CNL's all-in-one storage architecture is leading-edge but is also quickly being adopted by financial services providers because it offers a relatively inexpensive, centralized and easily managed infrastructure.

Webster added that CNL's use of encryption technology for archive tapes is also leading-edge, though "financial services is starting to pick up on it," in part because of "all the different pieces of legislation around data loss."

Three More States Add Laws on Data Breaches

BY JAIKUMAR VIJAYAN

Companies struggling to keep up with a patchwork of state laws related to data privacy and information security have three more to contend with, as a result of new security-breach notification laws that went into effect in Illinois, Louisiana and New Jersey on Jan. 1.

Like existing statutes in more than 20 other states, the new laws prescribe various actions that companies are required to take in the event of a security breach involving the compromise of personal data about their customers.

For instance, New Jersey's Identity Theft Prevention Act requires businesses to destroy all customer data that's no longer needed and to notify consumers when sensitive data about them has been accessed by an unauthorized person. The law also limits the use of Social Security numbers on all items that are sent via postal mail.

Louisiana's Database Security Breach Notification Law requires entities that collect information on the state's residents to notify affected individuals of security breaches involving their confidential data. Government officials also need to be notified, according to the law. Illinois' Personal Information Protection Act is similar, although it doesn't require companies to inform the state government when breaches occur.

For companies that do business nationally or in various states, the smorgasbord of state laws poses a growing problem, because the measures often specify different triggers for notifications and set varying requirements on what needs to be disclosed, to whom and when, said Kirk Herath, chief privacy officer at Nationwide Mutual Insurance Co. in Columbus, Ohio.

In addition, some states require companies to provide credit-monitoring services to affected customers, whereas others don't, Herath said. And not all of the states offer safe-harbor provisions that exempt companies that encrypt data from their laws, he said.

Seeking Consistency

"What I would prefer to see is something that would be uniform and preemptive [of state laws]," Herath said. "Otherwise, you have a very inconsistent application of the law, with some states requiring you to do nothing [and] some hammering you to the point of being unfair."

"We're hoping a federal law will help clarify the situation," said the director of information security at a specialty retail chain based in California. Until that comes to pass, the retailer plans to continue to use the SB 1386 breach-disclosure law that went into effect in California more than two years ago as a "baseline" for developing its security incident response and notification strategy, said the director, who asked not to be identified.

The retail chain also plans to develop an information grid that will help it quickly go through a checklist of requirements for each state in case it triggers a notification statute. Nationwide already has such a grid, according to Herath.

"What the situation is crying out for is a federal version of the state laws," said Arshad Noor, CEO of StrongAuth Inc., a compliance and identity management services firm in Sunnyvale, Calif. But such a law would have to be at least as strong as the existing state regulations are for it to win approval from federal legislators, Noor said.

LEGAL DIFFERENCES

The new breach notification laws each have unique provisions:

- Illinois requires companies to notify customers of breaches involving personal data – and to make notification procedures part of their information security policies.
- Louisiana requires customer notification in cases where there is reasonable risk of compromised data being misused. But companies covered by federal statutes are exempt.
- New Jersey mandates that customers be informed of security breaches unless companies can prove that the compromised data can't be misused.

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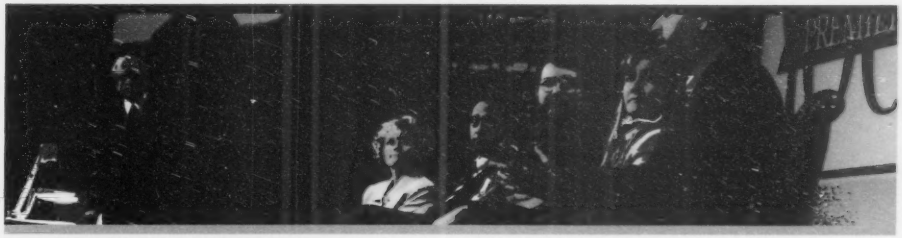

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BRIEFS

McAfee to Pay $50M In SEC Settlement

McAfee Inc. has agreed to pay a $50 million penalty and set up an anonymous ethics hot line where employees, customers and resellers can report unlawful behavior. The settlement ends a long-running investigation by the U.S. Securities and Exchange Commission into whether McAfee, formerly called Network Associates, properly accounted for a December 2000 change in the way it booked software revenue.

CA to Buy Systems Software Maker

Computer Associates International Inc. has agreed to buy application management software vendor Wily Technology Inc. for $375 million. Wily builds software that monitors the performance of applications and lets IT managers diagnose bottlenecks and other problems. Wily will become a division of CA's Enterprise Systems Management business unit.

Cisco Acquisition Passes U.S. Test

Cisco Systems Inc. passed a critical milestone in its planned $6.9 billion acquisition of Scientific-Atlanta Inc. when the U.S. antitrust waiting period passed without regulators taking any action. The merger still needs the approval of antitrust authorities outside the U.S. The move is expected to boost Cisco's place in the video-on-demand and Internet video-streaming markets.

Symantec Buys IM Tool Maker

Symantec Corp. has agreed to buy IMlogic Inc., a provider of enterprise software for instant messaging clients, for an undisclosed sum. Symantec plans to integrate IMlogic's security and content-inspection capabilities with its antispam and antivirus software, and its security appliances. Officials would not say how IMlogic employees will be affected by the move.

Buggy App Causes Tax Problems in Wisconsin

CGI-AMS agrees to fix $37M system it built in 2002

BY MARC L. SONGINI

THE STATE of Wisconsin this month started to fix a troubled $37 million tax system that has caused mistakes in collecting and distributing millions of dollars.

The Wisconsin Department of Revenue is working with service provider CGI-AMS Inc. to mend the flaws in the DOR's Integrated Tax System (ITS), said Laura Engan, deputy secretary at the DOR. CGI-AMS built the ITS more than three years ago.

CGI-AMS, which is a subsidiary of Montreal-based CGI Group Inc., this month started testing the system and fixing its performance problems, according to state officials.

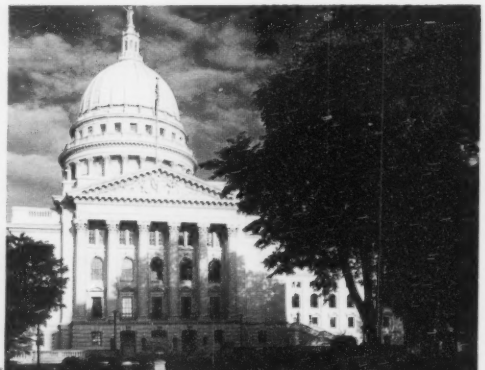
A separate review of the system by CGI and state engineers is slated to be completed in April. CGI has agreed to fix any further problems found during the review.

"We're working with the vendor to fix the problem now," Engan said. "We'd like that to have happened earlier. We're just incredibly frustrated with the performance of the system and the outcomes we've seen."

She attributed the bulk of the problems to "design flaws" in the system as delivered by CGI-AMS in December 2002.

In an e-mail, a CGI-AMS spokeswoman said that "the system was designed according to the original specifications. We are committed to working with the DOR to resolve outstanding issues" without charge.

The ITS was designed to automatically process sales and use taxes and to determine how much revenue is distributed to Wisconsin's 58 counties and two professional sports districts. Since the installation, the system has been plagued by software defects that caused calculation and programming errors along with processing backlogs.



NEWSCOM

Legislators at Wisconsin's statehouse will receive monthly reports detailing the progress of repairs being done to the state's $37 million tax system.

According to a report issued last month by the state legislature's audit bureau, the system has underpaid several counties by $9.1 million combined and overpaid others by $8.8 million. Most of those discrepancies have been settled.

The legislature's report pointed to a lack of familiarity with the ITS processes and forms by the state's retailers and the DOR's own staff for some of the problems. In addition, the report said that incomplete information was entered into the system, causing it to misread tax obligations and miscalculate retailer discounting computations.

The report said that errors occurred in some 380,000 of the roughly 8 million transactions processed since the ITS was implemented.

The ITS replaced a mainframe application with Java-based software that runs on IBM's WebSphere middleware platform and DB2 database.

CGI and DOR engineers in recent weeks have been analyzing data and testing to make sure that all defects are addressed, Engan said.

The DOR has calculated that it still owes 33 counties $1.8 million, while it has overpaid $2.8 million to 25 counties and the two sports districts, according to a report by State Auditor Janice Mueller.

In an interview, Mueller urged caution, asking that counties wait before collecting the remaining overpayments until the testing is complete and the ITS system proves reliable.

Mueller also said that the DOR has agreed to provide monthly reports, starting in February, to the state legislature on the progress of the ITS repair effort. ▸

ES&S Efforts Ease Calif. E-voting Concerns

Warning prompts company to address potential problems with machines

BY MARC L. SONGINI

So far, the California secretary of state's office is satisfied with the efforts of electronic voting systems maker Election Systems & Software Inc. to address concerns about its machines.

The state had notified the Omaha-based company last November that unease about the accuracy of the voting machines may force a decertification of the units.

In a letter sent to the manufacturer, Assistant Secretary of State for Elections Bradley Clark cited a problem encountered during a Nov. 8 test of the system, when a vote was apparently displayed inaccurately.

The state's certification process requires testing of voting system vendors.

ES&S has been working with the state to address issues that were raised by the test, said a spokeswoman for Secretary of State Bruce McPherson.

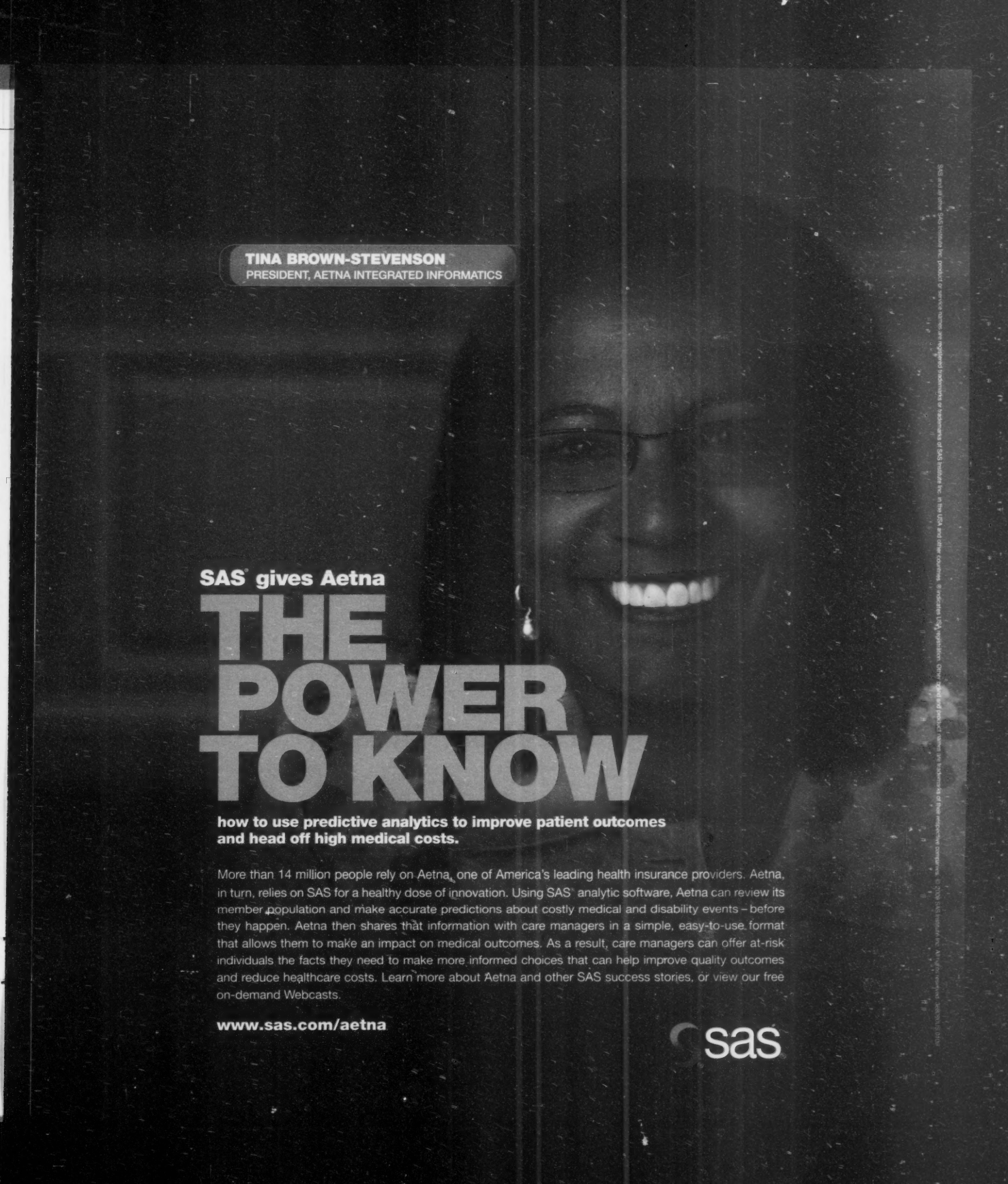
"At this point, they've been very responsive to our needs," the spokeswoman said.

She said that shortly after the letter was sent, ES&S officials "came in and addressed each issue point by point. Each one has either been resolved or they will be required to find a solution." She was unsure when ES&S will complete the compliance process.

An ES&S spokesman said the error was caused by a tester using her fingernail instead of her fingertip on the touch screen to cast a vote. The firm's iVotronic machines require that the fingertip be used, he said. The spokesman also noted that voters can review ballots before they are submitted.

The letter to ES&S also cited the tester's inability to see all of the choices on a single screen.

The spokesman said that the tester accessed the screen that summarized the number of votes cast and that the system does allow the viewing of all choices on a single screen. ▸



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GLOBAL DISPATCHES An International IT News Digest

Chip Exec to Resign in Spat With Government

TAIPEI, TAIWAN

THE FOUNDER and chairman of United Microelectronics Corp. (UMC) announced late last month that he plans to resign from the world's second-largest contract chip maker because of a dispute with the Taiwanese government, which he said is meddling in his company's business affairs.

Robert Tsao's planned resignation is the latest salvo in an ongoing battle between UMC and the government of Taiwan over alleged illegal investments by the company in Chinese chip maker He Jian Technology (Suzhou) Co.

UMC ran afoul of Taiwanese regulators in February, when police raided its offices in Taipei and Hsinchu and detained a number of Taiwanese employees of He Jian. The government has been gathering evidence that UMC invested in He Jian without applying for permission to do so. That is illegal in Taiwan, which carefully controls investments in China's semiconductor industry.

In a statement, Tsao said he will resign at a meeting of UMC's board in March and hand over the chairmanship to Jackson Hu, the company's CEO.

■ DAN NYSTEDT, IDG NEWS SERVICE

GLOBAL FACT

51%

Percentage of online banking customers in the U.K. who are interested in using cell phones for mobile banking.

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS.

Indian IT Units Oversee Offshore Development

BANGALORE, INDIA

CIOs AT the Indian operations of multinational companies are increasingly managing software development, outsourcing and other IT work for their corporate parents.

For example, Pfizer Inc.'s Mumbai-based Indian subsidiary is working with outsourcing companies in India to develop systems for Pfizer entities worldwide, said Arun Gupta, the unit's senior director of business technology. "We are actually creating a lot of systems and standards which will be used by Pfizer globally," Gupta said.

Deutsche Bank AG's technology and operations group in India manages the Frankfurt-based bank's outsourcing of software development and its business process outsourcing activities, said Arindam Banerrji, managing director and CIO at the Indian operation.

Sanjay Handu, director of strategic sourcing at Tyco Electronics Corp.'s subsidiary in Pune, said corporate officials are evaluating whether the Indian unit should manage software development and services for the entire Harrisburg, Pa.-based company.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Sales Gains Seen for Taiwanese Hardware

TAIPEI, TAIWAN

THE VALUE of IT hardware products built in Taiwan grew by an estimated 10.5% during 2005, to $77 billion U.S., and it is expected to increase by an even larger percentage this year, according to Market Intelligence Center (MIC), a market research company based here.

MIC predicted that the total value of hardware products produced by Taiwanese companies will reach $85.6 billion this year, a gain of 11.2% over the 2005 level. The research firm said that the increased sales will come mostly from low-cost products and from business in emerging markets.

Taiwanese companies make 82.4% of the world's notebook computers and 98.3% of all motherboards, MIC said. ▸

■ SUMNER LEMON, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

T-Systems International GmbH, the IT services unit of Deutsche Telekom AG, has agreed to buy Volkswagen AG's IT consulting unit for an undisclosed price. Berlin-based Gedas AG employs 5,500 workers, about two-thirds of them outside of Germany. Volkswagen also signed a seven-year, €2.5 billion ($3 billion U.S.) contract calling for T-Systems to provide it with IT services after the sale is completed.

Samsung Electronics Co. last week started commercial production of LCD display panels at a factory in Tangjung, South Korea, four months ahead of schedule. Meanwhile, rival LG Philips LCD Co. began production at a facility in Paju.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

Business Objects SA has hired an executive to expand its professional services group and develop more business intelligence services offerings tailored for vertical industries. Mark Doll, previously a partner at consulting firm Ernst & Young, was named vice president of professional services by Paris-based Business Objects. He will be based at the company's San Jose office.

■ JAMES NICCOLAI, IDG NEWS SERVICE

Private Office or Cubicle: The Debate Goes On

An office can shut out distractions but stifle communication among coders

BY PATRICK THIBODEAU

Jim Cooper considers himself one lucky software developer.

He works in a private office at SAS Institute Inc. in Cary, N.C., with a radio playing in the background, and he takes calls on a speakerphone. It's an environment that makes him far more productive than he would be working in a cubicle, he says.

"You have the ability shut your door and shut out most of the distractions," said Cooper, "and if you're more comfortable, you are usually more productive."

Cooper isn't alone in his belief that an enclosed office can boost developer productivity.

John Miano, founder of The Programmers Guild in Summit, N.J., also believes that software development operations would improve if employers provided a workspace that offered peace and quiet.

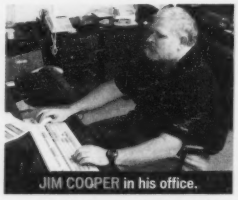
"It's my personal view that we have twice as many software developers in this country as we need," Miano said. The H-1B visa program "has destroyed the entry-level job market," said Miano, who authored a report for the Center for Immigration studies in Washington that was released last month.

He argues that businesses should focus on improving productivity and not on hiring cheap labor and offshoring jobs. Improved development tools, processes and better work environments could reduce development costs, Miano said.

Something as simple as "getting rid of cubicles and replacing them with enclosed offices" can boost productivity by eliminating distractions, he said.

Others, however, say working in open spaces can improve communication between developers, which is vital for most large projects.

For example, Altair Engineering Inc. opted for an open environment in an building it opened two years ago in Troy, Mich. With a three-story atrium that lets in natural light, the building features open areas shared by developers and their managers, said Michael Kidder, vice president for corporate marketing at the software development firm.



JIM COOPER in his office.

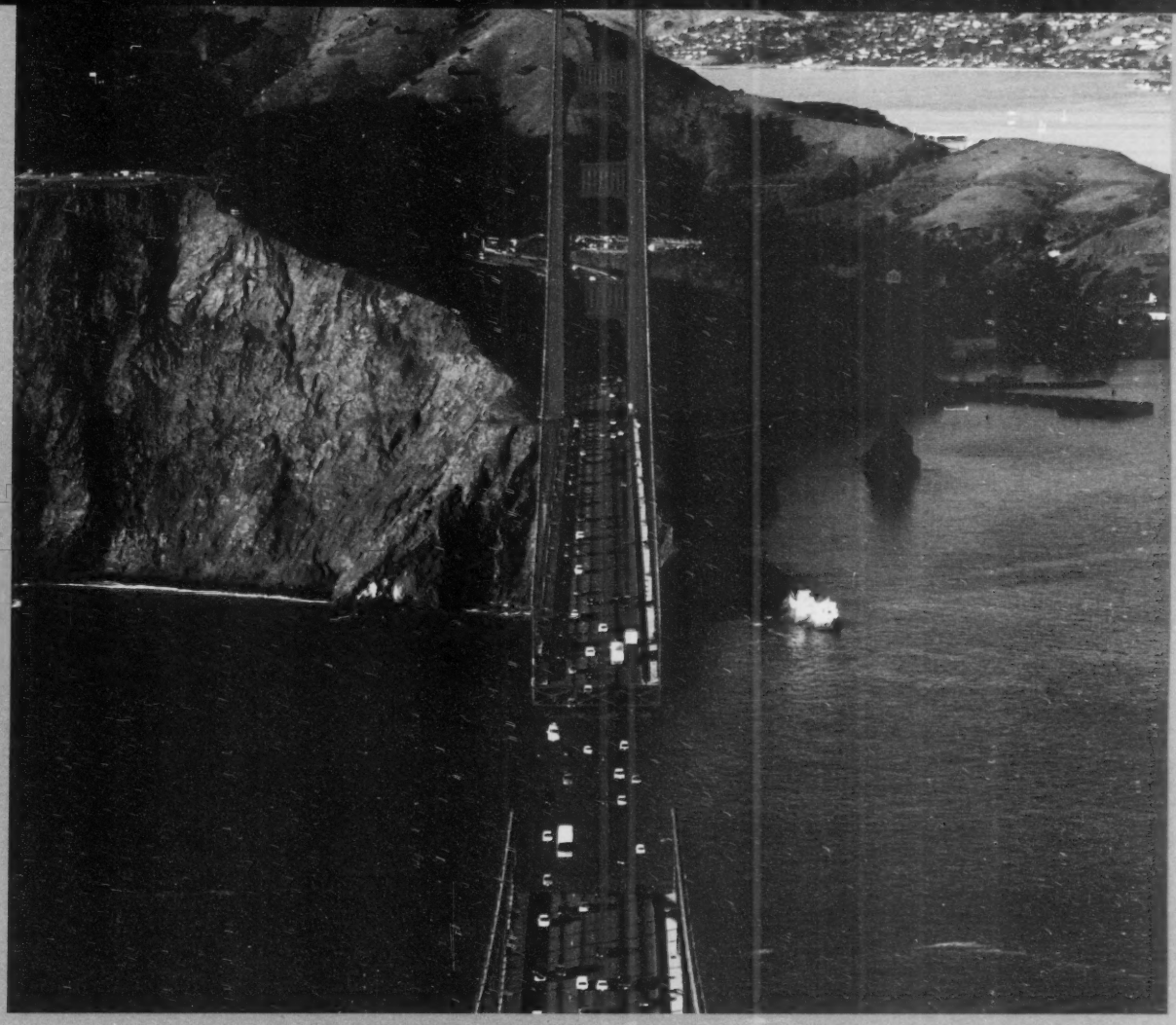
"We find that the open area provides a lot more communication between team members, which is critical to the quality of software," Kidder said. "That feedback loop is very hard to structure."

William Sims, a Cornell University professor who has studied workplace environments and software development, says his research found that open environments are more conducive to project development work.

Developers in private offices may be more productive individually but may not be in sync with a team, said Sims. Nonetheless, most software engineers still have "this firmly ingrained belief" that they need an enclosed office in order to be productive, he said.

Walt Scacchi, acting director and a research scientist at the Institute for Software Research at the University of California, Irvine, said office design boils down to economic issues for many companies.

In addition, some software development firms view offices as a perk for managers and put developers in open environments. On the other hand, some companies see offices as a recruiting perk, he said. ▸



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Continued from page 1

WMF Fix

ing an unofficial patch on the law firm's Windows servers could result in unforeseen consequences and raise potential support issues with Microsoft if the systems had technical problems in the future.

After hearing of the software vendor's change in plans, Kesner said he was "very excited and glad that Microsoft broke its usual schedule" of releasing patches on the second Tuesday of each month. IT workers at Fenwick & West met on Thursday to discuss plans for testing and rolling out the WMF patch on an emergency basis.

Dave Jordan, chief information security officer for Virginia's Arlington County, said Thursday afternoon that staffers there had already started testing different versions of Microsoft's patch and planned to deploy them as quickly as possible.

WMF is a 16-bit image format that is processed by the graphics-rendering engine in Windows. The flaw came to light in late December after security vendors began detecting exploit attempts. Attackers could use the vulnerability to run malicious code on vulnerable machines, steal data from infected systems and turn the computers into zombies for relaying spam and other malware, according to advisories from Microsoft and security researchers.

IMAGE PROBLEM

Key details about the Windows Metafile flaw:

What it is: A vulnerability caused by the manner in which the Windows Graphics Rendering Engine handles WMF files.

Potential risks: Could enable malicious hackers to take full administrative control of vulnerable systems.

Affected software: Windows 2000, Windows XP and Windows Server 2003.

Possible exploit methods: Malicious Web pages, specially crafted e-mail attachments or Word documents with embedded WMF images.

There were no known reports of widespread attacks on corporate systems, and Microsoft listed 11 security vendors that claimed their antivirus tools could protect users from attempts to exploit the flaw.

But some security vendors pegged the total number of attack methods targeting the vulnerability at more than 200 as of Thursday. The escalating number of attacks prompted some security researchers to recommend that companies immediately download the unofficial patch developed by Ilfak Guilfanov, a programmer who works in Belgium.

For example, Bethesda, Md.-based SANS Institute made Guilfanov's patch available on its Web site and urged IT managers to download it. The unofficial patch had been downloaded more than 120,000 times as of last Wednesday, said Johannes Ullrich, chief technology officer at the Internet Storm Center threat-monitoring service operated by SANS.

F-Secure Corp., one of the companies on Microsoft's list of antivirus vendors that can block WMF attacks, also recommended the use of Guilfanov's patch after testing and installing it internally. The U.S. Computer Emergency Readiness Team provided a link to the patch on its site but urged companies to do their own risk assessments.

Wary of Third Parties

Others said that despite the potential seriousness of the WMF flaw, users should avoid installing any unsupported patches because such code is unlikely to have been fully tested for application compatibility and quality.

"It is never a good idea to deploy an untested third-party patch. It's an invitation for bigger problems," said Andrew Plato, president of Anitian Enterprise Security, a systems integration and consulting firm in Beaverton, Ore. He added that the WMF vulnerability "is bad, but no worse than a hundred other exploits, many of which remain undisclosed."

Tom Robertson, senior vice president of IT at Charter Bank in Bellevue, Wash., said his staff was updating the bank's antivirus and antispam tools, as well as its content filters and network intrusion-protection systems while waiting for Microsoft's fix. But he said the bank was unlikely to install any third-party Windows patches.

The WMF issue highlights the need for users to have an IT security strategy that isn't overly dependent on a vendor's ability to get patches out quickly, said the director of information security at a specialty retail chain in California.

Instead of simply waiting for Microsoft's patch, the retailer relied on information from online bulletin boards to implement preventive controls such as intrusion-detection systems and URL, attachment and image filters, said the security director, who asked not to be identified. He said the company also had tested Guilfanov's patch and decided that it could be implemented on critical systems if the need arose.

MORE NEWS ONLINE

On Friday, the latest version of the Sober worm didn't appear to be causing any of the damage it was expected to:

QuickLink a7720
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Opinions Vary on Severity of New Flaw

IN ADDITION TO the disagreements over whether IT managers should have installed an unofficial patch to plug the Windows Metafile hole, there were differing opinions last week on just how big of a threat the vulnerability poses to users.

There is "a lot of potential risk" associated with the so-called zero-day vulnerability, cautioned Jay Heiser, an analyst at Gartner Inc. "If it can be exploited in any significant way, it would be an extremely big risk," Heiser said.

On Jan. 3, security software vendor McAfee Inc. said that more than 120,000 of its antivirus customers had reported that they had detected WMF exploit files attempting to execute on their systems.

But McAfee gave the exploit code a low-risk rating for both corporate and home users.

"As far as we're concerned, the threat is being vastly overblown," said Russ Cooper, editor of the NTBugtraq mailing list and a senior scientist at security vendor Cybertrust Inc. in Herndon, Va. "It's not being massively exploited."

Just two months ago, Microsoft fixed three other problems with the way Windows processes WMF images. Cooper said that none of those vulnerabilities was widely used with any success.

"We've had image-rendering problems in the base operating system for a long time," he said.

In its advisory about the newly discovered flaw, Microsoft said the problem "is serious, and malicious attacks are being attempted." But the company said its "intelligence sources indicate that the attacks are limited in scope and are not widespread."

– ROBERT MCMILLAN, PETER SAYER AND JEREMY KIRK OF THE IDG NEWS SERVICE

Microsoft Exec Targets 'Chatter,' Defends Vendor's Advice on WMF

Debby Fry Wilson, director of Microsoft's Security Response Center, spoke with *Computerworld* after the company released its patch for the WMF flaw.

WILSON: "We have always tried to be open."

What prompted the release of the WMF patch after Microsoft initially said it would be released on Jan. 10 with your other monthly updates? There's been a lot of variance in opinion in terms of how big the issue is and how fast it is spreading and so forth. Our analysis and guidance has been consistent that although the attacks are serious, they have been fairly stable in terms of spread. With that, we determined the best course of action was to put all our resources into a comprehensive update.

Because this is the first time we have gone on this fast of a track, we were somewhat conservative in our estimation, and we thought the best-case scenario was the Tuesday monthly release cycle. We put teams on this 24 hours around the clock. They finished the testing [Thursday] morning, and with the early completion of the testing, and also with the very strong customer sentiment that we got, we decided to release it [early].

Is this the shortest time you've taken to develop and release a patch? This is the fastest we have ever produced and tested an update at Microsoft. The development of the code fix actually ended fairly quickly. What takes a long time is testing through all of the complex matrices that we do. The other complexity is that we released simultaneously in 23 different languages and for all [supported Windows] platforms.

What do you think in general of how the security community reacted to the disclosure of the flaw? In these situations, there is always a lot of information that is flowing around. In some cases, there is some misinformation; in some cases, information is being provided for self-serving reasons by individuals or organizations trying to draw attention to themselves. All of that chatter makes it difficult for customers to know what authoritative source to put their confidence in.

With this issue, we have always tried to be open and transparent. There are times when our guidance may be in conflict with some of the more inflammatory things you hear in newsgroups and press headlines. But if anyone was to do a backward look, you would see our guidance is always based on data and on analysis, with the customer interest in mind.

– JAIKUMAR VIJAYAN

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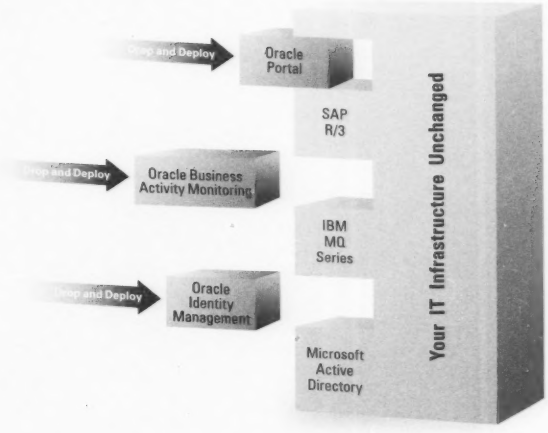

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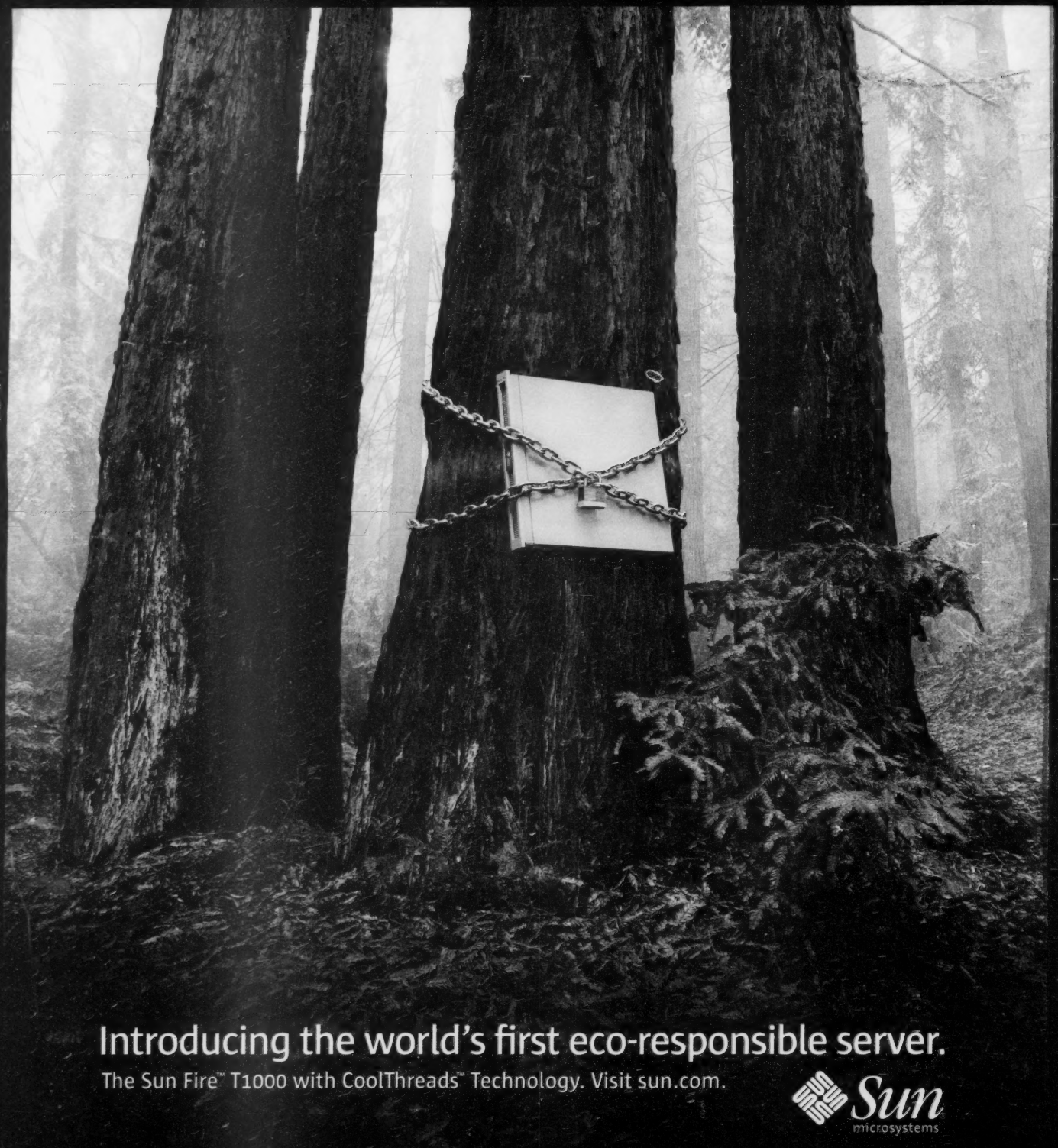
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U.S. Leadership on Cybersecurity Efforts Is Lacking, Says RSA CEO

Coviello claims federal government has yet to act on 2003 plan

BY JAIKUMAR VIJAYAN

Art Coviello, *president and CEO of RSA Security Inc., is a founding member and co-chairman of the standards committee of the Cyber Security Industry Alliance (CSIA), an Arlington, Va.-based consortium of technology companies. He is also co-chairman of the National Cyber Security Summit's Corporate Governance Task Force, which reports to the U.S. Department of Homeland Security.*

In an interview with Computerworld, *Coviello talked about a lack of federal leadership on cybersecurity issues and the challenge of information-sharing.*

Why did the CSIA recently criticize the federal government for failing to act on recommendations to improve cybersecurity? [Former White House counterterrorism chief] Dick Clarke, in his last act working for the White House, pulled together in early 2003 a strategy for the president to secure cyberspace. That was in 2003.

We are heading out into 2006, and the government has done absolutely nothing to execute on their own strategy. I think it is entirely appropriate that the Cyber Security Industry Alliance call attention to that.

We are pleased that [Homeland Security Secretary Michael] Chertoff announced that he is going to appoint an assistant secretary [for cybersecurity]. When are we going to get that assistant secretary, and when are we going to start executing on a strategy that was laid out almost three years ago?

What is the state of information-sharing between government and the private sector on cybersecurity? The idea of information-sharing is pretty comprehensive and complex. While the technologies exist, the people and the process part is a lot harder.

Is the profile of somebody in the FBI equal to the profile of somebody in the CIA or the DHS? How are you going to get all of these agencies to agree on what level of access is going to be adequate for people at various levels in the government? I won't minimize the challenges.

Should there be a federal data-breach notification law? I think it's a good thing to have breach-notification regulations. Consumers have the right to know if their identities have been compromised.

I do advocate that the federal government use their preemptive right on this, because you don't want companies trying to figure out 30 different state bills.

Generally, though, we are not in favor of regulations, mostly because of concern that government will regulate around technologies, and technologies are ephemeral. We would rather see the government lead and strongly suggest to industries that they set their own best [security] practices.

Does the unprecedented number of security incidents in 2005 show that bad guys are getting better or that breach-disclosure laws are forcing companies to acknowledge compromises? The California breach-disclosure law certainly helped. But I think it is clear that attacks on the Internet have evolved from viruses and worms.

But the latest attacks are for criminal gain. They are much more specific in terms of getting at people's information. That's been the single biggest change — organized crime and your average petty criminal look at this as a growth opportunity.

How do you respond to security analysts who say that token-based authentication like what RSA Security offers is too cumbersome and expensive? I take exception to that. You enter a [personal identification number], and you read a number off a token. I don't think that's particularly cumbersome. People do understand that this is a device to authenticate them, and it gives them a high degree of confidence.

How are consumers responsible for securing their own information? We vastly underestimate the consumer. A lot of financial institutions ask them, "Would you like a token to authenticate yourself?" Absent any value statement, the consumer is likely to say no.

Contrast that with, "Are you worried about your ID getting stolen?" or "Would you consider using a device to protect your ID?" and the answer is yes. It all depends on how you ask.

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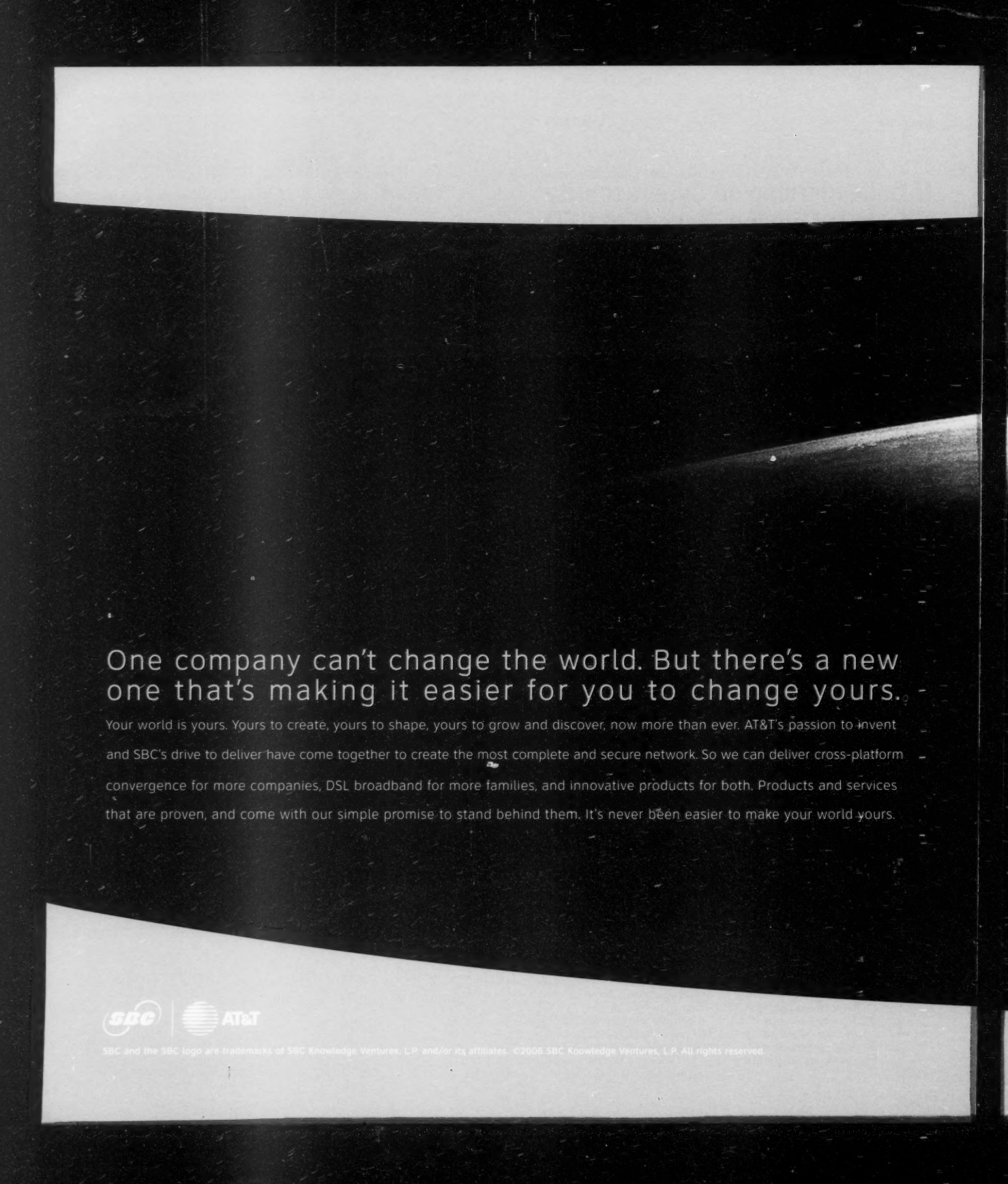
[1]Based on estimated relative web serving performance.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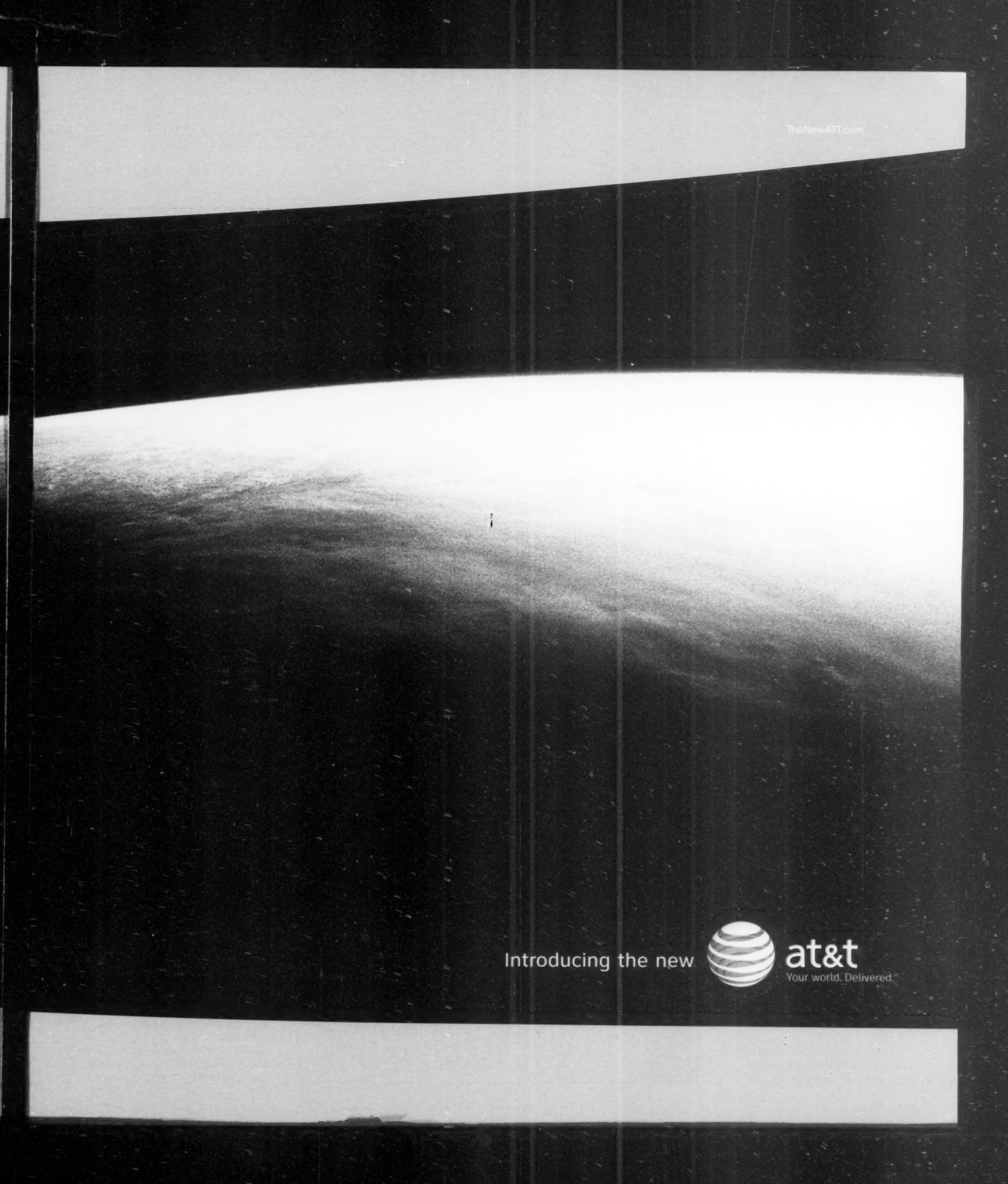
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DON TENNANT

Refusing Futility

THIS is a true story.

One day last week, my son Dan, a freshman at Worcester Polytechnic Institute in Massachusetts, went skiing with Adam, his best friend and a WPI floormate who happens to be an avid skier. Dan had two things working against him that day. First, he had never before seen snow skis in real life. Second, he gets his athletic prowess from me.

DON TENNANT is editor in chief of *Computerworld*. Contact him at don_tennant@computerworld.com.

Consequently, as Adam swooshed gracefully down the slopes of Wachusett Mountain, Dan spent a good part of the time looking up at his skis and admiring their perpendicularity.

Toward the end of the day, Adam asked Dan what time it was. When Dan looked at his wrist, his heart sank. Gone was the watch he'd received as a high school graduation gift. It had obviously been torn off in the course of one of the innumerable falls he had taken during 10 runs on four trails.

Adam could see that the watch meant a lot to Dan, so without missing a beat, he set out to find it. That's right. He decided to go look for a silver watch that had been lost somewhere on a snow-covered mountain.

He took the lift to the summit and slowly slalomed down the last trail Dan had taken, searching intently for the watch. He didn't find it.

So Adam got on the lift again. On the way back up, he glanced down at a different trail, and he spotted something silver gleaming in the snow. "That's it," he thought. Once off the lift, he skied anxiously down toward the silver speck. When he reached it, he pulled it out of the snow. And there in his hand was a foil gum wrapper.

Adam's head dropped. And when it did, his eye caught something even tinier in the snow, about a foot away from where the gum wrapper had been. He reached down and pulled Dan's buried watch out of the snow. (Yes, it was still ticking.)

I learned something when Dan told me that story, and I wanted to share it. I have to admit that if it had been me, the idea of looking for the watch would have been a nonstarter. I would have dismissed it out of hand as hopelessly futile and suggested that we get some hot chocolate as consolation and call it a day.

So yeah, Dan had two things working against him that day. But he had at least one thing going for him: He had a really good friend who refused to acquiesce to the notion of futility.

That refusal serves as a remarkable lesson for all of us, and it occurs to me that nowhere is it more valuable than in the IT profession. I've been a witness to the work you do long enough to know that much of what you're called upon to accomplish has such a high degree of difficulty that the prospect of a successful outcome must at times seem entirely unrealistic. And at times I've witnessed personal and organizational paralysis as a result. It's not a pretty sight.

No one is advocating recklessness. But there's a lot to be said for an organizational culture that values and rewards a willingness to try things even when the probability of success seems minuscule.

So if somebody on your team comes to you for a thumbs-up to try something that your gut tells you is a waste of time, think twice before you shoot him down. You just never know what lies a foot away from failure.

Don Tennant

BRUCE A. STEWART

A New IT Vision and Mission

AGAIN AND again during the past 12 months, I've had clients tell me that they are rewriting their IT vision and mission statements. Good! Far too many of those documents are dispiriting pablum that no one can remember anyway.

Vision statements are about what you want your IT group to be in the future. They aren't about who you are today. They need to be short and memorable and leave lots of room for each member of the department to make the vision his own through what he himself does.

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at bruce@bastewart.com.

Most of the IT vision statements I've seen lately are still stuck on making the IT department "utility central." Let's understand something here: Running a great utility service is not particularly inspiring — and it's firmly rooted in the present.

The days of Michael Treacy and Fred Wiersema's *The Discipline of Market Leaders* have passed, both in business and in IT. The 1990s were about choosing a strategy: Would you be operationally efficient (the utility vision), customer-service-focused or a product innovator? In the 2000s, both business and IT need to be all three simultaneously.

So, how are those few writers of IT vision statements who aren't still stuck on the utility model addressing the future? I'm seeing phrases such as, "We enable the business we need to be." Look at all the visionary ideas packed into eight simple words. "Enable" means that technology is not a solution looking for a problem, but something brought to a dialogue with others to devise a solution. "Business" points to a stake in the success of the enterprise itself: IT refusing to ac-

cept backroom status. The phrase "we need to be" makes IT a part of the company's competitive stance. It speaks to IT's integration into the life of the business, from first idea to delivery, as well as the need for the IT department to think more in business terms in the way it operates. Two outcomes of this are an excellent utility for services and excellent customer service to everyone using those services.

Mission statements, too, are fairly bland in the majority of cases and are often far too long. Do you remember your current mission statement? (No fair cheating and looking at the little card attached to your security pass, stuffed in your wallet or purse, or pinned up in your cubicle.) If you can't remember it, it isn't doing its job.

If vision statements are about what we want to be, mission statements are about the paths we take to get there. The mission statement that matched the vision of "We enable the business we need to be" is "We offer added value through our skill in technology in every interaction we have." Fourteen words that pack a memorable punch.

"We offer" deals with credibility — the business must want to partner with IT before IT's ideas gain ground. "Added value" is a call to arms: How could we do anything better, faster and possibly cheaper? "Through our skill in technology" is a reminder of the unique competence that must be maintained and grown to deliver that value. "In every interaction we have" says this is the rule, not the exception, within the IT department as well as with business clients.

Retiring tired old vision and mission statements is a good thing. Living up to a good new one is the path to greatness.

MICHAEL GARTENBERG

What 2006 Holds in Store For IT

WELL, IT'S a new year. Whenever the family gathers by the glow of the high-definition display and the warmth of new high-tech gear fills our homes and offices, I know it's time to take a look at what's going to happen in the world of IT in the year ahead.

1. This is the year of Longhorn – I mean Windows Vista. Yep, it's real, and it's coming to a desktop near you in 2006. Expect a quiet period in Q1 and then a major ramp-up in the spring. IT won't have seen anything like this since the arrival of Windows 95. While some folks are advising IT to ignore Vista until sometime in 2008, you do so at your own peril. Between Microsoft and its partners, there's likely to be close to a billion dollars spent on marketing this thing. By the time some IT folks get around to looking at Vista, they may discover that users have already taken matters into their own hands.

2. The tablet PC goes mainstream, really. I had this one on the list for 2005, but it turned out that the hardware just wasn't ready. Now, with the OEMs finally learning how to build machines that don't compromise when it comes to function and with Microsoft's Tablet PC mainstreamed into Vista, there's no reason for IT to hold back. Look for even more interesting designs to come in '06 that will change the way IT thinks about mobility.

MICHAEL GARTENBERG is vice president and research director for the Personal Technology & Access and Custom Research groups at JupiterResearch in New York. Contact him at **mgartenberg2@optonline.net**. His weblog and RSS feed are at **http://weblogs.jupiterresearch.com/analysts/gartenberg**.

3. Third-generation communications will become more important than Wi-Fi for many folks. After years of hype, the carriers are finally getting their 3G act together. Sprint, Verizon and Cingular all have stuff out there. Prices are getting better. Sprint, for example, charges only $15 a month for wireless broadband used with a PDA/phone combo.

Forget just reading and writing e-mail when you're on the road. You'll be able to get e-mail with attachments, stream satellite radio and watch TV, too. Battery life is better, so you can easily get through a heavy day of use without having to hunt for a coffee shop when you want to connect.

4. Web 2.0 will look a lot like Web 1.0 for IT. Although there's a lot of hype about Web 2.0, most of its benefits will be lost on IT. There's not going to be a sense of urgency for IT to hop on the latest technology bandwagon, and most of this stuff is going to be safely ignored. We'll continue to see consumer technologies outpace business stuff and eventually put more pressure on IT to think about how they can deploy those consumer products to help their companies make money.

5. Moore's Law will be relevant again. Windows Vista will change users' perceptions about the need for speed. More speed will now be justified for most users, even those for whom fast was fast enough around 1999. The buyers of fast PCs will be end users who want all the performance they can get in their Vista experience. Look and feel sells products, and the Vista experience really works when all the bells and whistles are turned on. As IT departments seek to justify the purchase of lower-cost systems, look for them to try to find ways to explain to users that they don't need Vista's Aero user interface to get their jobs done.

As always, my wishes for you for a new year filled with peace and prosperity.

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READERS' LETTERS

Apple's Computer Roots Run Deep

I'M CURIOUS to know if the author of the piece "Is Apple Moving Away From Its Computer Roots?" [*Computerworld.com*, Nov. 11] was around the first time Apple moved away from its computer roots.

I remember when the clunky little Apple IIs dominated the education market and the CPM machines held sway in the business world. Then IBM came out with its PC running the CPM clone operating system DOS that Bill Gates bought from Seattle Computer Products. Meanwhile, Apple was redefining itself with the Lisa and the Mac, the "computer for the rest of us." It went from the vendor of quirky, annoying, somewhat useful little boxes to the paragon of cool graphic computing.

These days, computers are becoming a buried part of the appliances that help people accomplish the day-to-day functions of life instead of futzing with computers. Apple is playing an interesting role once again as the computer "revolution" evolves. It still seems to have the cool high ground.

Companies that stick around need to evolve, like Apple's big brother, IBM, which started life as a maker of mechanical business products of various sorts and bet the company on electronic computers in the 1950s.

Ross Zimmerman
Principal analyst, IT network services, Pima Community College, Tucson, Ariz., rzimmerman@pima.edu

SQL Server Doesn't Stand a Chance

MICROSOFT'S 2005 SQL Server database can't even handle a terabyte of data, and CEO Steve Ballmer wants to break into the enterprise market ["Ballmer Looks to Change Users' Views of SQL Server 2005," *Computerworld.com*, Nov. 11]. Larry Ellison laughs all the way to his yacht.

Mark Carboni
Software engineer, Merrimack, N.H.

Securing Data in Transit Is Essential

SECURING DATA in storage is only one part of a complete security solution ["Getting Tough on Data Security," *Computerworld.com*, Nov. 10]. We secure at the perimeter and are now securing the data itself in storage and yet seem content to allow data to travel unprotected in between.

If we are really to get tough on data security, we have to start to address the security of data in transit – and we have to secure data from application layer to application layer. Then, and only then, will we be able to trust that data is secure at all times and that we don't run the risk of noncompliance with HIPAA or other regulatory requirements or, even worse, a potentially embarrassing and costly data breach.

True end-to-end security – the type that gives us the peace of mind to be able to sleep well at night – is achieved only when data is secured from inside a sending application to inside a receiving application, as well as in storage.

Nikki Sinclair
Director, Validian Corp., Ottawa

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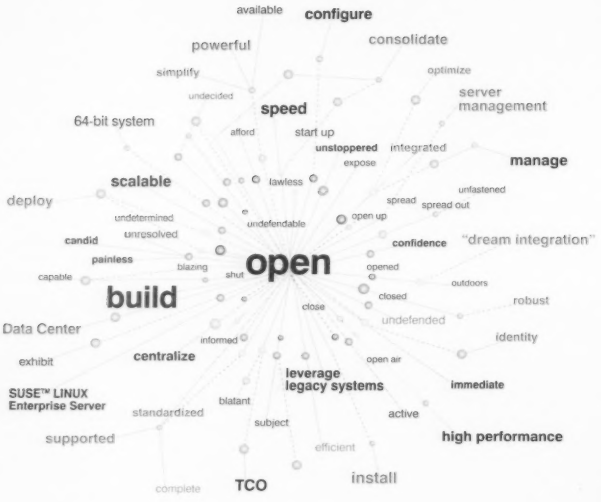

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FUTURE WATCH
Ray Kurzweil: IT Will Be Everything
The artificial intelligence pioneer and futurist looks out across the century and sees a wondrous but at times frightening world, where technology is everything and we have computers in our brains. **PAGE 28**

SECURITY MANAGER'S JOURNAL
U.S. Customs Requirements Become Latest Security Issue
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OPINION
Thin Is in Again For the New Year
Douglas Schweitzer says the resurgence of thin-client computing is being driven by the security and management advantages it offers. **PAGE 32**

Halliburton's energy services group turned to data visualization tools to help identify potentially productive oil sources, explains JUDY TIFFIN.

PAM FRANCIS

GET THE PICTURE

Data visualization software is helping companies make decisions by making sense of mounds of information.

By Connie Winkler

WITH GASOLINE prices up and equipment to drill new wells backlogged, oil producers want to squeeze every drop out of existing wells. But which sites have more oil to give up? To revisit old drilling data for possible clues, Halliburton Co.'s energy services group turned to a new-breed data visualization tool, and so far the analysis has led to more contracts for the Houston firm.

By creating a "picture" of the data — a process that entails rendering multiple variables into a graphical presentation — Halliburton analysts have found ways to see deep into the earth, spotting patterns, trends and anomalies in the data.

"We wanted sites that had very high production at first but then decreased rapidly," says Judy Tiffin, U.S. business and marketing analyst at Halliburton, noting that such reservoirs might have gotten clogged somehow and could be kick-started into production by one of Halliburton's services. "We can go in and stimulate or treat the well differently and maybe get the production up higher," she says.

However, wading through data to find those sleeper sites is a tricky process that involves comparing many variables. "It's usually not just one thing — there's so much [to consider]," Tiffin says. "We don't know what's going on underneath the ground."

To juggle the millions of pieces of this multidimensional or multivariant data, Halliburton's production optimization group tried Spotfire Inc.'s DecisionSite software. Until then, the five-member production optimization team had plodded through internal and public well data and seismic readings one Microsoft Excel data plot at a time.

Halliburton, Dunn & Bradstreet Corp., Cullen/Frost Bankers Inc. and Microsoft Corp. are among the companies embracing such analysis software, which devours data either from existing spreadsheets and database products or from data warehouses and business intelligence systems, and transforms it into visual representations. The tools — some of which cost as little as $999 — enable users to slice and dice data on the fly multiple times and to spit out the findings in multicolor bar and pie charts, scatterplots and diagrams.

The tools are part of a bigger market made up of products that provide new ways of seeing data. Other offerings include geographic information systems (GIS) and real-time data-stream-processing visualization tools such as those from StreamBase Systems Inc. and RiverGlass Inc.

"Visualization is a means of making sense of these vast amounts of data," says Dan Vesset, an analyst at IDC in Framingham, Mass. "The visualization makes [data] easier, simpler and faster to understand." IDC estimates that sales of data visualization tools were $250 million in 2005. The market research firm also projects 10% annual growth for the $15 billion BI and analytics market, which includes dashboards and applications, along with data visualization tools.

However, Gartner Inc. analyst Bill Hostmann cautions that data visualization is far from a requirement for BI systems, although BI systems that offer visualization capabilities are popular in industries such as pharmaceutical development and petroleum exploration.

Vendors that are hard at work developing data visualization products include Advizor Solutions Inc., Antarctica Systems Inc., Panopticon Software AB, Spotfire and Tableau Software Inc.

BI stalwart Cognos Inc. just bundled its Visualizer product into Cognos 8, while Business Objects SA acquired visualization toolmaker Infommersion Inc. in November. These companies and others are also partnering with GIS vendors, notably Environmental Systems Research Institute Inc. (ESRI) and MapInfo Corp.

Cullen/Frost, a $10 billion financial holding company in San Antonio, is using the Cognos 8 visualization tools for tracking plans vs. performance. "Before visualization tools, we reviewed paper reports of pertinent data, discussed the reports and then did additional manual analysis through requests to other departments," says Louis Barton, director of data warehouse and BI.

The Cognos tools are now used by managers and employees in treasury management, market research and corporate data stewardship departments at Cullen/Frost. "We're able to get a fast summary of critical success factors to help determine the gap between business plans and actual performance, with the seamless ability to drill into detail of areas of concern or areas of success," says Barton. The visualization software can easily be linked with other analytical and reporting tools, he says.

At Dunn & Bradstreet in Short Hills, N.J., the corporate global analytics group brought in Advizor Solutions' tool about five months ago for a new executive who had used it elsewhere. The five Advizor users say that it readily connects to Microsoft Excel or Access files, along with other corporate databases, but they wish it could use the data in their SAS BI systems.

But it's all about the graphics for director of data management Jinlai Fu, who's responsible for all of D&B's statistical modeling, performed for clients such as internal marketing or account mangers and for C-level executives.

"We needed a good graphical tool to help us in our presentations," says Fu. "In the past, we did graphs either in Microsoft Excel [or] PowerPoint itself." Advizor has cut showtime production by at least 20%, he estimates.

Taylor Hawes, Microsoft's controller for global platforms and operations, is a Tableau power user. He says he appreciates the Tableau tool's smooth linkage to the underlying data. In October, he distributed the tool to 15 analysts, including people in the human resources and product groups. "Usually when you're dealing with data graphically, you have to disconnect the underlying numbers. Tableau is cool — you can cut and paste a chart, actually pasting the numbers that you highlighted in cutting it out of the chart," says Hawes. "Technically, Tableau's ability to render a graphical presentation on the fly is exciting; we don't have anything today at Microsoft that can do that."

Who's Using Them

Some vendors estimate that only 15% to 30% of the workers who have access to BI tools within their companies actualy use them. Data visualization tools counter that, says Michael Smith, Cognos' BI marketing manager. "Presenting complicated data in an easy-to-consume fashion makes it a lot easier for users to understand the data and to make decisions that improve their performance," he says. Business users want the equivalent of the *USA Today* newspaper's multicolor weather map of weather trends and patterns.

Rows and columns simply aren't as compelling or informative. "Typically, when you're looking at text, you're looking at one issue, one point, one piece of data," says Judith Hurwitz, principal of Hurwitz & Associates. The Waltham, Mass.-based consultancy studied the effect of presenting data graphically for dashboard provider Bowstreet Inc., which was recently acquired by IBM.

"When you're looking at a dashboard or GIS system or any of these tools, you're looking at an automatic aggregation of information . . . say, from five different databases and public data sources," Hurwitz explains. "In the past, you manually coded and aggregated that information." In a recent Hurwitz survey of 113 IT executives, 95% of the respondents said dashboards were a way to provide increased consistency, reliability and accuracy to improve decision-making.

The new analysis tools can open up an organization, argues Spotfire CEO Christopher Ahlberg. "People are saying, 'Wow, I'm not going to be in a world where I'm just served a number, I'm going to have freedom to start exploring things," he says. Many organizations have access to the same data and run the same SAP or Oracle information systems as their competitors. "To differentiate themselves, they need to look at information in clever ways . . . and create an information advantage," says Ahlberg.

IDC's Vesset has another explanation for the spread of these tools, especially among executives facing Sarbanes-Oxley Act mandates: "The CFO doesn't want to be on the hook by himself."

Winkler writes about technology management in Seattle and can be reached at winklerconnie@yahoo.com.

PUSH FROM GIS AND REAL-TIME DATA

TWO TECHNOLOGIES that are playing big roles in popularizing visualization systems are GIS and real-time data. Real-time data is used in financial trading or network management systems, and GIS is booming, thanks to the availability of sensor technologies and mobile devices.

"Any data which has an explicit or implicit geographic code can be mapped and analyzed geographically," says David Maguire, director of products at ESRI in Redlands, Calif. Explicit geocodes are latitude/longitude coordinates; implicit ones include addresses, postal codes or administrative units such as census tracts or work areas. "We're looking at how things . . . in two or more dimensions . . . change over space and/or over time, and we're representing that in the form of a map," he says.

While GIS technology has long been used by governments to track hurricanes, viruses, population trends and military initiatives, it's increasingly being tapped by private firms to manage power failures or equipment, for example. Sears, Roebuck and Co. uses an advanced GIS application running on rugged laptops (with GPS tracking) to route and manage schedules for its 10,000 home-repair technicians nationwide. It sometimes saves 30 minutes a day, which is enough time to handle another call. The latest feature verbally directs drivers on turns and routes.

"Technicians were still using paper map books and manual data tracking," recalls Daniel Bowman, Sears' Smart Toolbox program manager. "If these paper-based methods could be replaced with digital information tools using a simple yet effective interface, technicians could work more efficiently and have greater flexibility in their daily activities."

And watch for more GIS, probably on cell phones and other mobile devices with Web connections, for workers in the field, Maguire says.

Applications with streaming volumes of time-sensitive data – notably on Wall Street – are prime candidates for stream-processing visualization tools such as those from StreamBase Systems and RiverGlass.

But even greater opportunities lie ahead with the plummeting prices of microsensor technologies, says Michael Stonebraker, chief technology officer at StreamBase. "Being able to report every [status] and every location means a lot more firepower," he says.

– CONNIE WINKLER

BAD DATA CAN'T HIDE

HALLIBURTON'S ENERGY SERVICES group uses Spotfire's DecisionSite to quickly knock out suspect data. The visual analysis tool easily links to multiple data sources, such as well seismic readings, which makes it easy to cull the statistical outliers or out-of-range readings in 3 million lines of data, says Judy Tiffin, U.S. business and marketing analyst at Halliburton. Previously, analysts spent hours sifting through log data for bad readings. "The log analysts love this [capability]; it saves them half a day," says Tiffin.

Halliburton wanted to find faulty information, but data quality problems may prevent other organizations from quickly adopting visualization tools.

"Data quality and users' skills in understanding and applying the results are still big barriers," says Gartner analyst Bill Hostmann.

Indeed, the tools inherently hunt out the data flyspecks. "However information is surfaced – whether in reports or visual analysis or scorecards – data quality issues are surfaced with it," says Christopher Oven, BI product marketing manager at Cognos. Just identifying the problem areas makes errors easier to find and fix, he adds. And the problems are typically less severe because organizations mature enough to use the visualization tools have usually already addressed data quality.

– CONNIE WINKLER

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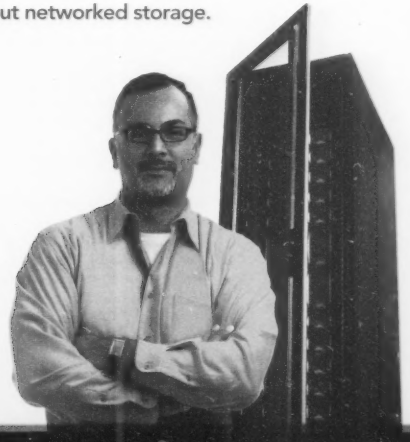

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RAY KURZWEIL: IT Will Be Everything

He predicts 3-D molecular computing, nanobots in the brain and intelligence for the universe.

BY GARY H. ANTHES

FUTURE WATCH

Inventor, writer and futurist **Ray Kurzweil** *has been a pioneer in speech and character recognition, reading technology, music synthesis, virtual reality and artificial intelligence. He has founded nine businesses in those fields, including Kurzweil Technologies Inc. in Cambridge, Mass., and he's won numerous awards, including the National Medal of Technology.*

In his recent book, The Singularity Is Near: When Humans Transcend Biology *(Viking Adult, 2005), Kurzweil, 57, predicts that ultimately, human intelligence and computer intelligence will fuse and become indistinguishable. He recently told* Computerworld *how and when that might come about.*

Your idea to reverse-engineer the human brain seems pretty far out. Until recently, we haven't had the tools to scan the brain with sufficient resolution. But there are five or six new scanning technologies. For the first time, we can see the brain creating our thoughts.

The amount of data we are gathering about the brain is doubling every year. As we get the data from particular regions, we can rather rapidly create detailed mathematical models of them. It's a conservative expectation that we will have a very accurate detailed simulation of all the regions of the brain by the late 2020s.

Ten quadrillion [10^{16}] calculations per second is sufficient to emulate all the regions of the brain. Japan just announced two supercomputers that will achieve that by 2010.

The question arises, Are we intelligent enough to understand our own intelligence? Maybe that's a feature of complex systems — they can't be so complex as to understand themselves. But it turns out that's not the case.

But why re-create the brain in software when we already have it in wetware? It's going to be very powerful, because we'll be able to combine what currently are advantages of human intelligence, particularly our pattern recognition, with ways in which machines are already demonstrably superior.

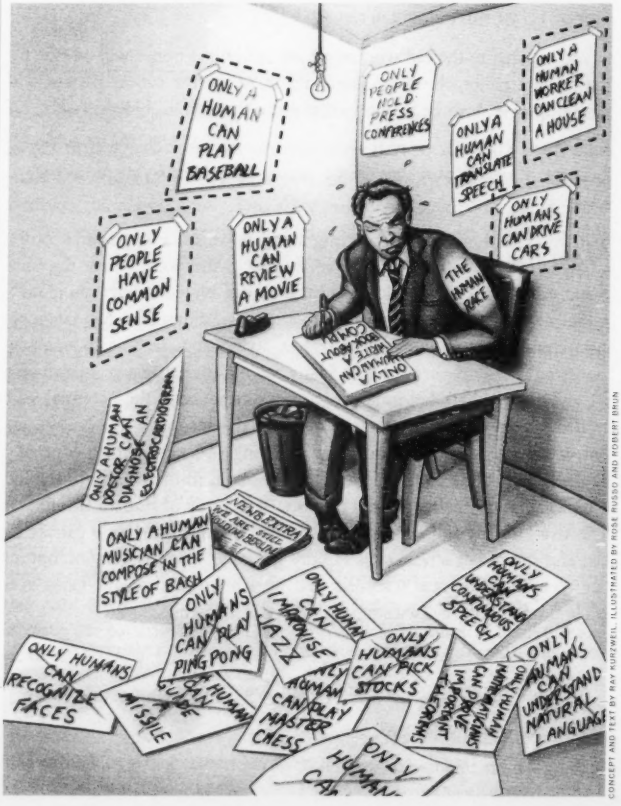
What's the future of the computer itself? Once we get past Moore's Law, we'll use 3-D molecular computing. [In the late 2040s], one cubic inch of nanotube circuitry will be 100 million times more powerful than the human brain. On the software side, machines [in the 2030s] will be able to access their own source code and improve it via an ever-accelerating, iterative design cycle. So ultimately, these systems will be vastly more intelligent than humans and will combine the advantages of biological and nonbiological intelligence. I don't see this as an alien invasion of intelligent machines; this is emerging from within our civilization.

Well before that, computation will be a worldwide mesh of computing elements, and anytime you want, you'll be able to, for example, access 1 million computers for 400 milliseconds.

Early in the next decade, images will be written directly to our retinas. How can you make screens really tiny but big at the same time? Put them in your eyeglasses and beam images directly to the retina.

What do you mean when you say computers will "disappear"? They'll make their way into our clothing and into the environment, and they'll be very tiny. We'll also move away from the idea that the computers we use are spokes into a network but not part of the network, to where every device will be a node on the network, meaning that not only will you be sending and receiving your own messages, you'll be passing on other people's messages. It will be continually self-organizing, so that all communication links will be continuously finding the most efficient path.

And what do you mean when you say people will "merge" with their technology? We'll be able to put intelligent machines — nanobots — into the bloodstream. By the late 2020s, these devices will have significant computing, communications and robotic abilities. Nanobotic white blood cells could download software for a particular pathogen and destroy it in a matter of seconds, compared with hours for our biological white blood cells. And you could have billions of nanobots go into the brain through the capillaries. [They] will enhance our cognitive functions and really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ONLY A HUMAN CAN TRANSLATE SPEECH
ONLY A HUMAN WORKER CAN CLEAN A HOUSE
ONLY PEOPLE HAVE COMMON SENSE
ONLY A HUMAN CAN REVIEW A MOVIE
ONLY HUMANS CAN DRIVE CARS
THE HUMAN RACE
ONLY A HUMAN DOCTOR CAN DIAGNOSE AN ELECTROCARDIOGRAM
ONLY A HUMAN MUSICIAN CAN COMPOSE IN THE STYLE OF BACH
ONLY HUMANS CAN PLAY PING PONG
ONLY HUMANS CAN RECOGNIZE FACES
ONLY HUMANS CAN GUIDE A MISSILE
ONLY HUMANS CAN PLAY MASTER CHESS
ONLY HUMANS CAN PICK STOCKS
ONLY HUMANS CAN UNDERSTAND NATURAL LANGUAGE
ONLY HUMANS CAN IMPROVISE JAZZ
ONLY HUMANS CAN UNDERSTAND CONTINUOUS SPEECH

CONCEPT AND TEXT BY RAY KURZWEIL. ILLUSTRATED BY ROSE RUSSO AND ROBERT BRUN

expand human intelligence.

We will be able to go beyond the limits of biology and replace your current "human body Version 1.0" with a dramatically upgraded Version 2.0, providing radical extension of life.

What will Version 2.0 be able to do that we can't do today? One scenario would be virtual reality from within the nervous system. Nanobots could shut down the signals coming from your own senses and substitute the signals you would be receiving if you were in the virtual environment. You can move your virtual body in the virtual environment, and this will incorporate all five of the senses as well as neurological correlates of your emotions. You can go there with another person for any kind of encounter. And you can have archival experiences.

So will the importance of our biological intelligence diminish? The nonbiological portion will grow [by a factor] of 1,000 per decade, and the biological portion will ultimately be very insignificant. People look at this and they are alarmed, because they think, I'm going to become a machine. But they are thinking of the machines they know today, which are very crude machines.

What's the future of the IT professional? The good news is IT is going to become more and more important. Ultimately, everything of importance will be comprised of IT. There's a trend toward specialization, so what IT people can do is to try to get professionals in a number of highly specialized pursuits to be able to communicate with each other and have their computer systems communicate with one another.

Are their any downsides to all of this? I'm very concerned about the downsides. We have existential risks already — the potential to wipe out all of humanity with nuclear weapons. But now we have new existential risks — the ability to design biological viruses. The tools and knowledge to do this are far more widespread than the tools and knowledge to create an atomic bomb, and the impact could be far worse. In my book, I said the last thing we'd want to do is put the genome of dangerous viruses on the Web, but that's exactly what the Department of Health and Human Services has just done with the 1918 flu virus.

What's really, really far out? In the 22nd century, we will have saturated the ability of matter and energy in and around the Earth to support computational processes, and intelligent computation will spread out to the rest of the universe. Whether this spread to the rest of the universe happens quickly (another century or so) or slowly (billions of years) depends on whether or not we can circumvent the speed of light as a limit on the communication of information. I believe it is likely that we can. ▸

TIMELINE: The Future According to Ray Kurzweil

2010: Computers become invisible.

2020: $1,000 buys a computer working at 10 quadrillion, or 10^{16}, calculations per second.

2025: Computer are able to simulate the entire human brain.

2030: Nonbiological intelligence matches human intelligence in range and subtlety; $1,000 buys a computer 1,000 times more powerful than the human brain.

2045: The point of "singularity" is reached, when technical progress is so fast that unenhanced human intelligence can't follow it. One can no longer distinguish between our biology and our technology.

22nd century: Our intelligence, biological and nonbiological combined, saturates the matter and energy around us and begins to spread throughout the universe.

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U.S. Customs Becomes Latest Security Issue

A requirement to allow a server to connect to a third-party service provider via a VPN is reason for concern. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

ONE OF my duties as the information security manager is to approve firewall change requests. With 17 firewalls throughout the world, reviewing such requests can take a lot of my time. I don't mind that, though, since that process makes me aware of some of the business functions within the company. For example, it was through the change-request process that I was made aware that we are required to report to the U.S. Customs Service information about the shipment of goods.

As I've mentioned, we manufacture hardware used in the manufacturing of semiconductors. We're required to notify the government just about every time we ship equipment to a foreign country.

We use SAP software to process our sales orders. It includes a U.S. Customs Management module to facilitate the printing of the required documents, and a more automated procedure, the Automated Export System (AES), for sending transit declarations electronically. We use AES, and that's the reason for this most recent change request.

Currently, we are using a dial-up connection to a U.S. Customs server hosted by a third party, since the Customs Service doesn't have the resources to host this reporting infrastructure.

I learned about all of this when one day I reviewed a change request to open up our firewall to allow one of our SAP servers to establish a virtual private network (VPN) connection to an external server; the SAP server is located on our internal, protected network. I asked why one of our critical servers needed to make an outbound connection, and the engineer making the request explained that the Customs Service is discontinuing support of the dial-up method for transferring shipping information. Instead, we will need to use a VPN tunnel to transfer the required information.

After several rounds of e-mail messages with the engineer, I called a short meeting so that I could fully understand the requirement. (I do this often, whenever the e-mail thread for a particular topic amounts to a small novel.)

I was thinking that if the only purpose of the VPN is to transfer information regarding shipments, then why couldn't we make a connection just once per day? I also wanted to know a little more about this VPN client.

> If the only purpose of the VPN is to transfer information regarding shipments, then why couldn't we make a connection just once per day? . . . I got my answers, and they made me uncomfortable.

I got my answers, and they made me uncomfortable. As it turns out, we will need to make a connection every half hour for 15 minutes. In addition, there is return traffic from the U.S. Customs server, which transmits acknowledgment reports back to us.

Troubling Implications

I didn't like the sound of this. If what was needed was solely a once-per-day outbound connection for 15 minutes, we could put some server restrictions in place in order to prevent packets initiated from the external site from reaching our internal infrastructure. But the need to make connections throughout the day compromises our ability to restrict packet activity. Just because a VPN tunnel is encrypted doesn't mean that malicious activity can't be conducted within it. The VPN ensures only that the traffic from one point to another is encrypted and not changed. Furthermore, I can't vouch for the integrity of the third-party service provider's systems or any of its employees.

And there are other problems. Not only is our SAP server environment an integral part of our business, but these servers are included in our Sarbanes-Oxley audits. If we fail a SarbOx audit because we're not securing external connections, I could get in a lot of trouble.

What's more, the external service provider is responsible for the policy that will be applied to the VPN client. We simply install the client, point it at the service provider's firewall and provide a user ID and password. We will have no idea what the configuration of the service provider's firewall is or any details regarding the policy that will be applied to our VPN connection.

I asked the engineer responsible for this initiative to get a hold of the service provider and ask for details on the configuration it will be using. I'm also contemplating having the SAP server in question placed on what I like to call a "dirty subnet." This would allow us to put a firewall between the SAP system that is used solely for U.S. Customs reporting and our critical SAP environment.

Fortunately, we have some time before the Customs Service officially terminates the dial-up connection, so we will be able to fully review the configuration and attempt to evaluate the service provider that the Customs Service has outsourced this infrastructure to.

Looking Ahead

I've now been in my current position for almost six months. I've got a pretty good handle on our network infrastructure and the various points of contact within the business units.

One of my resolutions for the new year is to conduct a complete firewall-access control list audit in order to fully understand what kinds of holes we have in our environment. It's definitely not an easy task, and finding the time to do this may be very challenging for me. I might hire a contractor for a few weeks to either conduct the audit for me or at least provide me with a meaningful picture of our firewall infrastructure. ▸

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: **computerworld.com/forums**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Security Bookshelf

Penetration Testing and Network Defense, by Andrew Whitaker and Daniel Newman (Cisco Press, 2005).

Although this might seem like your typical Cisco book, the material isn't Cisco-centric at all. In fact, many of the tools referenced are typically found in any security engineer's toolbox. And while there are many books available on penetration testing, it's important to keep current on attack techniques and methods of detection. The authors provide full coverage of both older and newer concepts related to penetration testing. I especially enjoyed reading the chapter on session hijacking, but I wanted more Oracle database security information. The case studies give perspective to the contents of the chapters.

– Mathias Thurman

Two Vulnerabilities Hit BlackBerry

Two vulnerabilities in BlackBerry Enterprise Server can permit malicious attacks that prevent users from opening e-mail attachments or disrupt the flow of information between BlackBerry Enterprise Server and BlackBerry Router, said systems developer Research In Motion Ltd. The first vulnerability allows an attacker to use a corrupt TIFF image file to cause a heap-overflow error that can stop a user's ability to view attachments, it said. The second vulnerability is exploited by sending malformed protocol packets that cause a denial of service for all BlackBerry Enterprise Server communication.

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BRIEFS

Seagate Announces Two Hard Drives

■ Seagate Technology LLC in Scotts Valley, Calif., last week announced the first portable hard drive based on perpendicular recording technology. The vendor also announced a 500GB Serial ATA push-button backup hard drive. The Seagate 160GB Portable Hard Drive will be available next month and will retail for $379. The Seagate 500GB eSATA PushButton Hard Drive will be available in April.

Parlano Updates MindAlign IM App

■ Parlano Inc. has announced that Version 6.3 of its MindAlign enterprise instant messaging application is now available. It features enhanced secure connectivity to the AOL, Yahoo and MSN IM networks. It also offers enhanced integration with Microsoft Active Directory to provide simple and consistent management of user and group identities between MindAlign and other systems, according to the Chicago-based vendor. Version 6.3 also introduces the MindAlign Reporting Pack, which is designed to help simplify reporting and systems management in large organizations. Pricing starts at about $150,000 for a typical deployment.

Microsoft Still Leads In Corporate E-mail

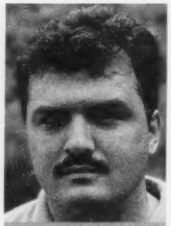
■ Microsoft Corp. will stay at the top of the growing corporate e-mail market, thanks in part to its software's new "wireless push" capabilities, according to a new report from The Radicati Group Inc. in Palo Alto, Calif. The study revealed that Microsoft's Exchange e-mail system currently has 23 million more seats than Lotus Domino, IBM's e-mail offering. The addition of wireless push e-mail capability to Exchange as part of the Service Pack 2 upgrade should keep driving users to Microsoft in the future, The Radicati Group predicted.

DOUGLAS SCHWEITZER

Thin Is in Again For the New Year

THE use of thin clients, once thought to be in decline, is having a revival. IDC estimates that thin-client sales grew 46% from 2004 to 2005. Thin-client computing will be the way of the future: Companies of all sizes are replacing their fat clients.

Thin clients — computers that are connected to a server in a network and have no hard disk drives — have come a long way over the past few years, and the current lot can match the features of a fat client, but without the management and security issues associated with them.



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They are also a prime force in enabling people to telecommute, giving employees much-needed flexibility and mobility. And finally, the proper use of thin clients allows IT professionals to have greater control over their organizations' computer security endeavors.

Of course, IT staffers confront more than security issues. Their responsibilities extend to dealing with staffing shortages and the financial constraints introduced by upper management. That's where server-based thin-client computing struts its technologically advanced stuff: It provides features that can match those of fat-client computing (including data security and privacy), without the need for as many support employees and at a competitive price.

Thin-client architectures make it much harder for users to inadvertently infect systems with malware and make it easier to identify and remediate security threats when they arise. From a business continuity standpoint, if a single terminal fails, data won't be lost, since it's stored on the server. Having a centralized storage system allows for faster and easier backups as well as efficient disaster recovery.

Given the advantages of a thin-client architecture, it's interesting to consider the reluctance of some organizations to adopt thin clients. For the most part, the reasons for the foot-dragging lie in human nature. Some employees are hesitant to abandon their PCs, believing that in so doing they're giving up some control or independence. Others assume that thin-client product features are inferior, and some believe a switch to thin clients could negatively affect their ability to do their jobs.

Understanding the underlying thin-client mechanisms will help IT staffers educate other employees. When computer use was first becoming mainstream in the 1960s, the system configurations of the time used a structure much like the thin-client computing structure of today, in which the host computer — larger and hence more expensive — acted as a display and received input data.

In this scenario, employees using thin-client-connected displays are not truly using "computational" applications — they're primarily using just a word processing program, although the keyboard and mouse make the experience feel no different than the experience of using a PC. The truth is that while today's operating systems require more processing power, storage and RAM, the applications that they run show little speed increase when run under a faster processor, so PCs don't really have a performance advantage over thin clients.

Advantages like flexibility, consolidation and lower cost of ownership make thin-client computing an attractive alternative to the fat client. The organization will realize a lower maintenance expense and exact more control when its data and its processing are focused in the one data center of the established thin-client network.

The cost savings of switching to a thin-client setup can be significant — Bloor Research (*www.bloor-research.com*) has estimated that deploying thin-client technology across an organization can cut costs by up to 70%. If you wish to see approximately how much thin clients might save you, both 2X Software (*www.2x.com*) and Netvoyager (*www.netvoyager.co.uk/general/tcocalc.html*) offer cool cost-savings calculators at their Web sites.

The thin-client approach simplifies many management issues, and the lower operational and deployment costs of thin-client computing are without question an added argument for adoption. Thanks to advances in thin computing, users' fears are no longer justified. It's no wonder thin-client computing is expected to continue to grow in popularity. Maybe it's time to take a look at the cost savings and added security that thin computing can provide and make a resolution to put your current network on a diet. ▸

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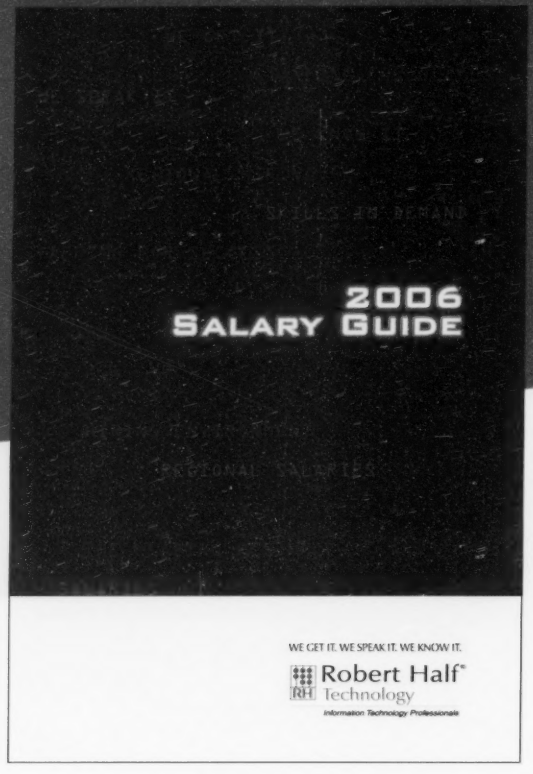

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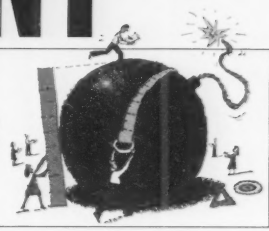
MANAGEMENT

Q&A
How Did I Miss That?
Harvard Business School's Max H. Bazerman explains how failure to seek, see, use and share information can lead to bad decisions. **PAGE 37**

Measuring Project Risk
Managing risk is a top priority in IT projects, but you can't manage what you can't measure. Good risk metrics enable you to prioritize risks — and that's the first step to mitigation. **PAGE 38**



OPINION
Developing the Managerial Mind
Skills don't make a leader, says Paul Glen. They are tools in the toolbox, but real leadership grows from the mind and heart and is much more difficult to teach. **PAGE 39**

LUNCH

For a group of Atlanta CIOs, informal lunch meetings have evolved into something that's of compelling value for themselves, their companies and their community. BY GARY H. ANTHES

EVERY OTHER month in Atlanta, one of the most powerful groups of IT managers anywhere meets over lunch. But you won't find this organization in the telephone book or in any other directory of IT movers and shakers. In fact, it doesn't even have a name.

At a typical meeting, members of the ad hoc group — CIOs at 15 of Georgia's largest companies — recount their experiences with IT products, share horror stories about information security, offer tips on recruiting and hiring, compare strategies for regulatory compliance and reveal their secrets for vendor management.

They also plan their next project on behalf of a local charity. Last year, the CIOs contributed several hundred IT workers to build a house with Habitat for Humanity International Inc., teamed up to form a pro bono technology steering committee for the new Georgia Aquarium and helped put on a charity fundraising gala called the Digital Ball.

"We call it 'group therapy,' " says Marian Lucia, a member of the lunch bunch and CIO at Federal Home Loan Bank of Atlanta. "It's not orchestrated. It's not sponsored by a vendor. It's ours."

The bimonthly meetings have no preset agenda; attendees just offer what's on their minds. "We've covered everything from Sarbanes-Oxley to what people did during Hurricane Katrina, our challenges around searching for talent, outsourcing, H-1B visas, organizational structures, how we manage compliance functions and our relationships with our CFOs," Lucia says. "I always come away with something."

For example, Lucia says, she took comfort and direction from noting that many of her peers had to hire more people in order to meet Sarbanes-Oxley Act requirements. "Before, I was feeling the pressure to have a compliance function within IT, but this gave me the validation," she says.

Although group members come from diverse industries, "the issues we all face are very much the same," says Becky Blalock, a *Computerworld* Premier 100 IT Leader who was a co-founder of the group and is CIO at Southern Co., a $12 billion Southeastern energy company. "The last time we met, at Coke, we talked about disaster recovery because just about all of us had been impacted by Hurricane Katrina," she says. "I showed some of the things that had worked very well for us."

Blalock told the group that immediately after the

LOU PRICE

SOME GROUP MEMBERS at a recent lunch: Marian Lucia, Federal Home Loan Bank of Atlanta; Gregory Morrison, Cox Enterprises; Kristin Kirkconnell, AGL Resources; James Dallas, Georgia-Pacific; Sandra Kearney, Goldkist; Dave Barnes, UPS; Larry Frey, BlueLinx; Becky Blalock, Southern Co.; Steve Winterbottom, Scientific-Atlanta; and Fran Dramis, BellSouth.

"We call it 'group therapy.' It's not orchestrated. It's not sponsored by a vendor. It's ours."
MARIAN LUCIA, CIO, FEDERAL HOME LOAN BANK OF ATLANTA

hurricane, the only way Southern could communicate was via its own SouthernLinc wireless network. One member of the group subsequently bought 100 SouthernLinc mobile telephones, she says.

According to Blalock, the group grew from an idea put to her two and a half years ago by Gregory Morrison, CIO at Cox Enterprises Inc. "He said, 'It would be nice if we could talk without any vendors present.' We had about five CIOs at the first lunch, and we had such a great time, we said, 'We need to continue doing this,' " Blalock says.

"I always come away from those meetings so inspired and motivated," she adds. "It's very powerful; when you go back and talk to your executives and try to convince them to do something, you can say, 'At every other company in this town, they are already doing this.' "

And the professional as well as personal relationships established at the lunch meetings carry into other realms, Morrison says. "We are a close-knit group and interact often," he says. "Several of us are affiliated with other IT groups and nonprofit organizations that extend our relationships even further."

While those other professional groups, such as the Georgia CIO Leadership Association, are larger and more formal, the nature of the ad hoc group gives it a unique feeling of camaraderie, its members say. "We feel safe to be open because there is no real competition," Lucia says. "We are very honest with each other, and we have gotten so we really care about each other."

"As CIOs, we can't walk out onto the floor of our organizations and share our pain in particular areas," says Larry Frey, CIO at BlueLinx Corp. "The CIO lunches are an opportunity for us to share some of the pain among the CIOs."

The group has no formal membership criteria, but it limits itself to a small number of the most senior IT executives — those whose job it is to concentrate on long-term IT strategy. "As senior CIOs, we look three to five years out," says Fran Dramis, CIO at BellSouth Corp.

"There really is a genuine interest in sharing information and helping each other." FRAN DRAMIS, CIO, BELLSOUTH

The CIOs also encourage intercompany collaboration among their more junior IT managers, who typically get together to discuss more-focused, tactical issues.

The House That IT Built

Although the CIO lunch group was formed two and a half years ago primarily as a way to share best practices in IT, a strong secondary mission soon emerged. "At pretty much every [lunch meeting] now, we do something for a not-for-profit," says John Seral, CIO at GE Energy. "We ask, 'Using technology, can we solve each others' problems as well as community problems?' "

For example, when the group decided to build a Habitat for Humanity house, "we went back and got $10,000 to $15,000 [from each member] for materials, and then we assigned project managers from each business's IT [unit]," Seral says. Several hundred IT workers from 10 companies built the house in seven working days.

Besides doing good, these philanthropic activities provide a way to get cross-company pollination of IT at a level below the CIO, Blalock says.

"What was powerful about the Habitat house is that people on down the organizations got to know each other," she says. "The storage people got to know each other, for example, and they now get together to talk about what's working and not working on the storage front."

More recently, the group explored ways to assist Hurricane Katrina victims and came up with the idea of working with United Way of America to fortify its telephone system, which had been overloaded with calls after the disaster. BellSouth, for example, helped United Way set up a call center in Mississippi.

Two years ago, two senior executives from The Home Depot Inc. decided that the company would be a major sponsor of the new Georgia Aquarium, and they turned to Home Depot CIO Robert DeRodes for help with the IT aspects of the facility, such as ticketing and digital displays.

"There was only so much I could do personally," DeRodes recalls. "The question was, how could I broaden my base of support?"

The answer came from his CIO lunch colleagues, who formed the Voluntary Technology Advisory Committee. "We offered advice and used equipment, we engaged vendors and used our collective leverage to get the aquarium favorable prices, and we helped them hire their CIO," says DeRodes.

The CIO volunteers' companies became a virtual pool of IT expertise for the aquarium, he says. "A [group] member would say, 'Let me take this issue; I have someone on my staff who's an expert in that space.' "

Community Culture

Atlanta has a special culture of community at several levels, the CIOs say. "I was in Washington and New York a lot when I was CIO at Solomon Bros. and Citibank and Bankers Trust," Dramis says. "What I found here was a really good collaborative spirit with people who loved the community and had a good sense of the company's importance to the community. There really is a genuine interest in sharing information and helping each other."

Dramis stops short of saying Atlanta is unique in this regard among U.S. cities, but he does say, "Atlanta is a big small city. The community and its companies are woven together."

Asked how the ad hoc CIO group ranks as a source of information compared with alternatives such as conferences, trade publications, consultants and research firms, Dramis says, "They are all valuable, but what's interesting about a group of local CIOs is that their information is relevant to the marketplace we are working in."

"There is no amount of consulting you could pay for that's worth that face time with your peers," Blalock adds.

Says longtime CIO Lucia, "It fills a niche I've never had the opportunity to fill before."

MENU?

Here are the five top issues the Atlanta-area CIO lunch group currently finds itself discussing.

Information security. "Every time we meet, we talk about cybersecurity: What tools are you using to filter? What kinds of activity are you seeing in your network? What are you doing to manage those risks? I'd say that's the No. 1 topic for all of us."
– Becky Blalock, CIO, Southern Co.

The Sarbanes-Oxley Act. "It comes up pretty much every time now. It's the ambiguity of it and its huge demands."
– John Seral, CIO, GE Energy

IT vendors. "There's this huge proliferation of vendors. It's very confusing. The best thing you can do is talk to your peers about the tools they have purchased and what works for them."
– Becky Blalock

Recruiting, hiring and training. "If we are in a big hiring mode and someone else is in a downsizing mode, we let each other know: 'I'm developing some new Web applications, and if any of you are letting people go, let me know.' I just got some résumés from Delta because Delta was cutting expenses."
– Fran Dramis, CIO, BellSouth

Information management. "Does [responsibility for managing data] reside in your legal department, in your IT department, in the business units? There's a big battle brewing right now on who's responsible. The amount of information we are all managing is doubling every two to three years. Anything we can learn from each other can really help."
– Becky Blalock

– GARY H. ANTHES

THEIR OWN SPACE

Thornton A. May, futurist, dean of the IT Leadership Academy at Florida Community College at Jacksonville, and a *Computerworld* columnist, spoke with Gary H. Anthes about the Atlanta CIO lunch group.

What distinguishes an average CIO from a great one? It's how externally focused and externally connected the CIO is. World-class CIOs have world-class personal networks. The more bunkered up you are, the more broken you are.

The Atlanta CIOs as a group do a lot for the community. The CIO role is becoming not only a leader of value creation in the enterprise, but also a leader of social change in the community.

How important is the exchange of best practices among CIOs? "Best practices" is an Industrial Age idea. In fact, best practices has become a fetish item among average CIOs. The Atlanta CIOs use their judgment to choose "most appropriate practices." Every organization is different, so the CIO has to be therapist, anthropologist and technology cartographer. What they are looking for is perspective.

They are pretty adamant about excluding vendor participation. Many vendors don't understand how to talk to CIOs, so the CIOs are creating their own spaces.

How Did I Miss THAT?

'Bounded awareness' can cause you to ignore critical information when making decisions.

Success in IT, as in any field, is all about focus. But in this month's Harvard Business Review, **MAX H. BAZERMAN** *and Dolly Chugh posit that focusing too tightly can cause you to miss critical information that's right under your nose. From the* Challenger *disaster to the Vioxx debacle, bad decisions often can be tracked back to a failure to consider information that was readily available. Bazerman, a professor of business administration at Harvard Business School, talked with Kathleen Melymuka about how to take the blinders off.*

What is "bounded awareness"? It's the tendency to fail to see critical information in our environment because we're overly focused on some subsegment of what's out there. We're so focused on a specific task that we miss other information that's extremely relevant.

In your article, you give an example from the Ulric Neisser study. He has two videos transposed on top of each other. One has three players in white T-shirts passing a ball. The other has three players in dark T-shirts passing a ball. Since they're superimposed, they never pass between the colors. People watching are given the task of counting the number of passes among the white T-shirts. As the film goes on, a clearly visible woman with an open umbrella walks through the frame. She is so visible that normally everyone in the room would see her, but when they're busy counting, the vast majority of people don't. In Neisser's study, only 21% saw her. My experience with executives is closer to 3%. Neisser was looking at what people fail to see literally, but we're looking at what people fail to see figuratively.

You write about several causes of bounded awareness. The first is the failure of decision-makers to seek information. On the face of it, that sounds silly. It does, but there are situations where people use the information in the room where they should be identifying information they need to make this decision optimally. One classic example is the *Challenger* disaster, where decision-makers at NASA didn't ask for relevant information to analyze whether low temperature related to O-ring failure. They used the information that was available.

To Increase Your Awareness

- **KNOW what you're looking for.**
- **DEVELOP (or pay for) an outsider's perspective.**
- **CHALLENGE the absence of contradictory data.**
- **OVERSEARCH in contexts where an error would be extremely difficult to recover from.**
- **THINK about the full context of the situation; if you overemphasize one area, you may discount important information in another.**
- **ASSUME that the information you need exists.**
- **ASK for each person's unique information.**
- **MAKE information-sharing the norm.**

– MAX H. BAZERMAN AND DOLLY CHUGH

How can a CIO avoid that kind of error? See Neisser's video, or go to [*http://viscog.beckman.uiuc.edu/djs_lab/demos.html*], where my colleague Dan Simons has 12 of these visual illusions. I find it's very valuable for executives to see a visual illusion. It tells us that there are things going on in our minds we really don't understand. If I were to tell a CIO, "There's important information out there, and you're missing it," he would probably say, "And your evidence would be what?" It's useful to unfreeze people with the visual illusion. Then they can more readily see that there are situations where smart people miss opportunities to bring the right information to a decision.

You write that another cause of bounded awareness is failure to use information. Can you give me an example? In many companies, the information is there, but somehow it doesn't get used. In the Vioxx story, it's clear that information about the medical risks existed at Merck long before the public became aware. It seems they had it but didn't use it.

You say that success in one technical area impairs companies' use of new technologies outside that area. Mike Tushman at Harvard Business School has written about the Swiss watch industry. Switzerland owned the watch market for decades, and they had quartz technology long before anyone else had it. But their success with mechanical watches got in the way of their developing a replacement market. They essentially gave the quartz technology away, and the Japanese cleaned up as a result. Their success helped put on the blinders to using the information they had about an upcoming technological change that was going to occur with them or without them.

You note that members of a team often discuss only the information they're all aware of and don't share their unique information. Why? It seems crazy, because the whole reason we put together teams is to get information that only one or two of us may have. Our best guess is that when you say what everybody knows, you get positive reinforcement. When you bring up something that is unique information, people sit there or it's unclear what happens next. So people are reinforced more for saying things other people already know.

How can an IT manager make sure all these mistakes don't happen? The role of the devil's inquisitor can be of use here. Too often, we end up using the information available and agree to the same points and bring people into the decision path who have a lot in common. The devil's inquisitor is assigned to ask, "What information that we need isn't here? What information might we have that we're not using? What might we know that we're not sharing?"

I can imagine readers becoming paranoid about never having enough of the right information. How do you balance all this with the need to decide? We don't mean to create analysis paralysis, but too often we use the information we have rather than ask, "What information do we need?" People are always doing cost-benefit analyses about whether to look for more information or stop with what they have. But we're not even arguing for collecting more, but for collecting the right information. At NASA, they had an enormous amount of information, but not the right information.

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

TRY IT

Max H. Bazerman and his colleagues use this exercise, adapted from psychologist P.C. Wason, to illustrate the failure to seek the right information:

The instructor writes the sequence "2-4-6" on the board and challenges students to guess the rule by calling out other sequences of three numbers. The instructor will tell them whether each sequence they offer follows the rule. Students can query as many sequences as they like, but each gets only one chance to guess the rule.

The volunteers usually offer only a few sequences before making their final guesses, and the guesses are invariably incorrect because the students have sought only evidence that would confirm their guesses. For example, one may say, "80-86-90" to confirm that the rule is "even numbers," or "1-3-5" to confirm that the rule is "numbers that go up by two." When they get that confirmation, they guess – incorrectly.

The rule is actually "any three ascending numbers." So, Bazerman says, "it is rare that we will have answered no to a sequence." Solving this problem requires people to accumulate contradictory rather than confirming evidence – something most of us are not good at.

– KATHLEEN MELYMUKA

Measuring Project Risk

Managing risk is a top priority in IT projects, but you can't manage what you can't measure.

NO MATTER how good a project manager you are, you can't eliminate risk in IT projects. But you can and must manage it. And since you can't manage what you can't measure, good risk metrics should be part of your project tool kit.

Without accurate risk metrics, you can fail to mitigate serious risks and end up watching your project fail. Or you can misspend in an overblown effort to mitigate risks that will never come to pass or that won't cause much damage if they do. Here's how to get a handle on project risk.

Start early. "The key issue with IT project risk is that it is usually not considered until there is a problem," says Chris Thatcher, an enterprise security consultant at Dimension Data North America Inc. in Hauppauge, N.Y. "It is considered best practice to conduct a risk assessment for each IT initiative before it receives approval."

Identify risks. You should have enough information at a project's inception to know about the biggest risks, such as ineffective sponsorship, a fudged business case or inept project management, says Richard Hunter, an analyst at Gartner Inc. in Stamford, Conn. "Killing projects that exhibit those risks on Day One would save most IT organizations 50% of the money they spend on failed projects," he says.

Make a risk list. Good project planning will naturally address risk areas such as staffing, funding and technology, says Robert E. Taylor, CIO for the government of Georgia's Fulton County.

But there are other risks that are specific to the individual project. You can identify these by asking what would most likely cause one of the project's products, modules or processes to fail and then finding the root cause of each failure. "One of the easiest ways to get to root cause is to ask why [a failure might happen] five times," explains Mike Blake, chief financial officer at Kaiser Permanente IT. The answers will get you closer and closer to the underlying risk.

Compare your list of risks with a standard risk profile, says Tom DeMarco, an analyst at Cutter Consortium in Arlington, Mass., and co-author of *Waltzing With Bears: Managing Risk on Software Projects* (Dorset House Publishing Co., 2003). You may have identified more risks than are on that standard list, but make sure you aren't missing any. If you have failed to identify one of the standard risks, you may be in denial, he says. Snap out of it.

Next, look into the types of risks you've found, DeMarco says. For each one, ask whether it's a binary risk — something that either happens or doesn't happen — or a contiguous risk — something that happens to some extent and causes injury accordingly.

Measure. Examine each risk, noting its potential impact and likelihood. To assess potential impact, "we look at the dollars associated with the risk: what we would lose and the negative brand exposure we would suffer," says Gerald Shields, CIO at Aflac Inc. in Columbus, Ga. "You need this analysis to determine what you would spend to mitigate the risk," he adds, since you wouldn't want to spend more to mitigate a risk than what the event would cost you.

Then look into the actual likelihood of the risk event. "Corporations can go to the extreme, spending a million dollars to close an exposure that is minimal and remote," says Shields.

Metrics are all about consistency, says Taylor. "A consistent view of the metrics and a consistent interpretation of the results are key," he explains. Only by ensuring that all stakeholders are viewing and interpreting the metrics in the same way can you begin to mitigate risks appropriately.

Projects with high-impact/low-probability risks need to be continually monitored to make sure the risk probabilities don't change, Taylor says. This is an area where consistency of metrics — and buy-in from IT, business and finance — is essential. If the probability of a high-impact event increases, there should be no debate as to what that means for the project. "The key is to agree on what constitutes a low-, medium- and high-probability status and then monitor the established standards to ensure that these do not change as the project proceeds," says Taylor.

Prioritize. Creating a matrix with this impact/probability information will help you better understand how to prioritize risk mitigation. The top risk is usually very specific to your business. "Since we're a health care company, things that endanger our patients are No. 1," Blake says. "You have what I call the untouchables. [For example,] if it happens to be the peak time in the ER, we're not going to be taking down servers during that time."

Verify mitigation. Once you've identified, measured and prioritized risks, you can take steps to mitigate them. But you're not done yet. You need to verify that steps have been taken to mitigate the risks, which is an easy task if you've done your job properly. "Risk mitigation leaves footprints," says DeMarco. "You can go into a risk assessment of New Orleans and say, 'Show me the money you spent to make sure the busses were there. Show me the contracts that you signed.' "

Improve. Keep track of the risks that actually come to pass during a project, so you have a better idea of their probability during your next project.

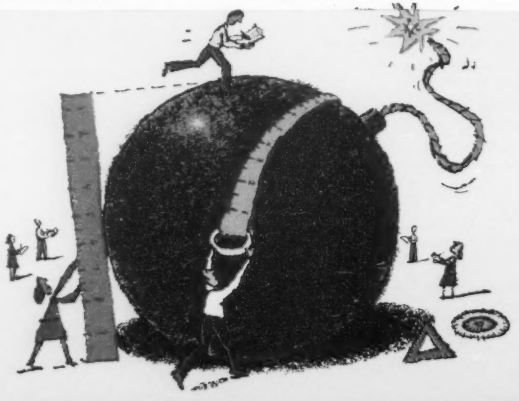
Learning to manage risk is an ongoing task, but your risk management capabilities should get better as your risk metrics improve. ▸

Geer is a freelance writer in Ashtabula, Ohio. You can contact him at geercom@alltel.net.

Identifying Risks

Here are six steps to identify IT project risks, from Cutter Consortium analyst Tom DeMarco:

1. Create an environment **where people can talk about things they hope won't happen.**
2. Take a risk census. **Hold a brainstorming session to tally team members' worst fears for the project.**
3. Validate your census results. **You should have a definite number of risks – not just an estimate. The most common number for projects today is between 20 and 50.**
4. Identify each risk type. **Is it binary – something that happens or doesn't happen – or is it contiguous – something that happens to some extent and causes a degree of damage?**
5. Gauge the potential impact, **even if it's just a guess.**
6. Do a reality check. **Compare your risks with a standard risk profile and make sure those risks are on your list.**



DANIEL BAXTER

PAUL GLEN

Developing the Managerial Mind

RECENTLY, I decided to visit the national convention of the Society of Human Resource Management. The annual SHRM conference is an astonishingly large gathering of HR professionals and hundreds of vendors of everything from health insurance to holiday hams, 360-degree review services, recruitment advertising, Web-based services and training programs.

I went to see what commercial vendors are offering in the way of leadership and management development services.

Since I believe that one of the greatest challenges IT departments will face in the next decade is a leadership gap as baby boom managers retire, I wanted to check out what the marketplace had to offer to smooth the transition.

PAUL GLEN helps technical organizations to grow better leaders and managers to perform at their best. He is the author of the award-winning book *Leading Geeks*. Contact him at **info@paulglen.com**.

Let's just say that I left the conference a bit overwhelmed by the number of programs on display and underwhelmed by the likely success of those programs. There were boot camps and coaches, videos and e-learning programs, self-guided courses and seminars.

But what almost all of them had in common was their focus on leadership skills. Skills. Skills. Skills. Everything was reduced to skills. There were courses on things like listening, communicating, writing, emotional intelligence and "visioning" (I despise that pseudoword).

It was as if someone had set off an M-80 in the leadership section of a Barnes & Noble and each of the resulting fragments had been turned into a stand-alone curriculum advertised as the one solution for all your leadership deficits.

Now, don't get me wrong. I'm all for skills, but most of these programs seemed at best to misconstrue and at worst to willfully obscure the purpose of skills. They are far from the only things that effective managers need.

What Leaders Need

Leaders need skills much as carpenters need hammers and drills. Skills are leadership tools. But, as my wife can tell you, just having a toolbox full of hardware doesn't make me a talented craftsman. The difference between a handy husband and a master carpenter is not in the hammers, or even the eyes and the hands, but in the mind.

If you want to grow new leaders, you need to focus first on developing the managerial mind rather than leadership skills. Good leaders need a combination of managerial maturity, business acumen, wisdom and ethics in order to know what to do with skills. They must be able to look at the world through a number of distinct lenses, synthesize the chaos of reality into a coherent image and then use leadership skills to move people to positive action.

Given a choice, I'd take a less skilled but more thoughtful leader over a highly trained but more limited thinker. A leader with a good mind and heart can usually overcome a deficit of skills, but an immature yet skilled manipulator will eventually self-destruct, taking his organization with him.

Beyond Skills

So, why are there so many programs that focus on skills rather than mindset? I suspect that there are good reasons for that.

1. Skills are easy to teach, to encapsulate and sometimes to measure. Mindsets are vague and idiosyncratic.

2. Skills are more concrete than mindsets. That makes training and development programs easier to sell.

3. Skills can be learned quickly (at least in theory). In a few hours, anyone can be taught a conceptual model and a few simple techniques for any skill. Changing minds takes time and patience.

So, what's an earnest leader interested in developing the managerial potential in his organization to do?

Chances are that no one product on the market will meet all of your needs. You'll have to construct your own development program using a combination of best-of-breed commercial products and custom-developed experiences.

Sound familiar? Building your people infrastructure is not entirely unlike designing your software infrastructure. But this shouldn't be surprising. Every organization has its own culture, its own strategy and its own management style. Generic leadership training, like packaged software, will go only so far.

So when you start thinking seriously about developing your leadership bench strength, avoid the skills-only nostrum. Tools alone are no substitute for insight and ethics — the products of the educated and mature managerial mind.

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EXEC TRACK

Ewing Is Nasdaq CIO

The Nasdaq Stock Market Inc. in New York announced that ANNA EWING has succeeded Steve Randich as CIO and executive vice president of operations and technology, reporting to CEO Bob Greifeld. Previously, Ewing served as Nasdaq's senior vice president of applications services. She has been with the organization since 2000. Prior to joining Nasdaq, Ewing was managing director of e-commerce at CIBC World Markets Inc. Before that, she held various executive positions at Merrill Lynch & Co.

Stewart Promoted To CTO at Wal-Mart

NANCY STEWART has been promoted to senior vice president and chief technology officer at Wal-Mart Stores Inc. She will report to CIO Linda Dillman. Stewart will be responsible for the company's infrastructure and technology, operations, information security, facilities and system implementation. She joined Wal-Mart in 2004 as vice president of large systems and infrastructure. Previously, she was an executive at General Motors Corp. and IBM.

Carey Will Be CTO at EBay Marketplaces

MATT CAREY will join San Jose-based eBay Inc. as CTO and senior vice president for eBay Marketplaces, effective Feb. 1. He will be responsible for eBay's product development, architecture, project management, operations, information systems and research labs. Carey comes to eBay from Wal-Mart, where he was CTO.

Bott to Lead Ryder IT

Ryder System Inc., a transportation and supply chain management company in Miami, announced the appointment of KEVIN BOTT as senior vice president and CIO. Bott was previously vice president of global supply chain solutions technology services within Ryder's IT group.

Zeninfotech is looking for computer professionals (multiple openings) having Masters/Bachelors or equivalent in CS, MIS, CIS, Math, Tech, Bus, Engineering (any field), or related. Must have experience in any of the following skills sets:
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Will provide a competitive salary and benefits. Send Resume to Zeninfotech, 5800 Mill Brook, Suite A, Shawnee, KS 66218 or email to resumes@zeninfotech.com.

Computers
Needed multiple positions: Director, System Administration (Job Code 0669) and Systems Analyst I (Job Code GC070) Send resume to HR, Cellular Technology, Ltd., 10515 Carnegie Ave, Cleveland, OH 44106. Must refer job code when submitting resume.

The Methodist Hospital System, a nonprofit healthcare institution based in Houston, TX seeks a degreed and experienced Systems Analyst to implement, support and maintain clinical software applications in a large healthcare environment. Send resume to: Employee Relations Specialist, 8100 Greenbriar St., GB 162, Houston, TX 77054.

Software Engineer (Systems Software) (Columbus, OH area) - to perform complex research, design, analysis, development and testing of systems-level software for Ohio State University (OSU) business processes, applying advanced concepts of relational data management and knowledge of relational database management components utilized by the assigned functional environment, PeopleSoft applications, PeopleCode, SQRs, SQLs and PeopleTools. The successful candidate will design/develop all aspects of data conversion, provide cost and time estimates for work units and create detailed specifications from which less experienced team members can perform detailed development (coding and unit testing), develop and conduct testing plans and scripts to be used in system integration and user acceptance testing. This position requires a Bachelor's degree in a related field of study plus 3 years of relevant work experience. Excellent written and oral communication skills are desired. Apply at www.jobsatosu.com. Click Search Postings and enter Requisition #318994. To build a diverse workforce, OSU encourages applications from minorities, veterans, women and individuals with disabilities. EEO/AA employer. If you are a person with a disability and require assistance with the employment process, please contact Employment Services.

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Degree and experience requirements vary.

Send resumes referencing applicable job code above to:
3820 Mansell Rd.
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OneNeck IT Services is seeking a qualified applicant for the position of Implementation Engineer in Scottsdale AZ to perform technical requirements analysis and design, data conversion, & testing using Microsoft Axapta, VC++ and X++. The position requires a Bachelor's or equiv in EE, CE, IT VC++ or CS + 2 years exp. Resumes to Debbi Hertle, OneNeck IT Services, 5301 N. Pima Rd. Suite 100, Scottsdale AZ 85250 or e-mail to jobs@oneneck.com. Reference Job:AXAPTA

OneNeck IT Services is seeking a qualified applicant for the position of Principal Customer Manager to define, create and execute dept programs, manage all aspects of customer interaction using SAP, SAP R/3 and Configuration Mgmt.in Scottsdale AZ. Requires a Bachelor's or equiv in Info Tech, CS, Info Sys, Economics or Business + 5 years exp. Resumes to Debbi Hertle, OneNeck IT Services, 5301 N. Pima Rd. Suite 100, Scottsdale, AZ 85250 or e-mail to jobs@oneneck.com. Reference Job: PCM

E-Con seeks programmer/system analyst, database administrators, software or project engineers working in Metro Detroit. Minimum is MS or BS with 1-5years IT experience. Use Weblogic 6.0 Application server, Java Servlets, XML. Please send resumes to: hrd@goecon.net. EOE. No calls.

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Develop, analyze, code, support, maintain, and debug web applications. Req: M.S. in CS, 2 yr. exp. Skills in Java, HTML, MS SQL, ASP.NET, Visual Studio.NET, DreamWeaver, Flash, C#, and scripting technology. Resume/Ad to Expert Health Data Systems, Inc., 12530 Stratford Garden Drive, Silver Spring, MD 20904.

Software Engineers for Naperville, IL: Design, develop & test software using Java, C, C++, VB, Winrunner, Tuxedo, Eclipse, Corba, RMI, RUP. Masters or Equivalent** req'd in Computers, Engineering, Math or related field of study + 1 yr of related exp. (**Eqv: Bachelors or Eqv. + 5 yrs of progressive related work exp). 40 hrs/Wk. Must have legal authority to work permanently in the U.S. Send resume to HR, Anthropology Intl, Inc.3655 Hector Lane, Naperville, IL 60564.

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Warren, PA

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SDE Business Partnering seeks MIS analyst to support customer on SDP R9.2 documents, develop PM OPM3 custom training courseware & CMMI training requirements. Require Master of finance or BS+5yr exp. Send resume: 400 Renaissance Center #1010, Detroit, MI 48083.

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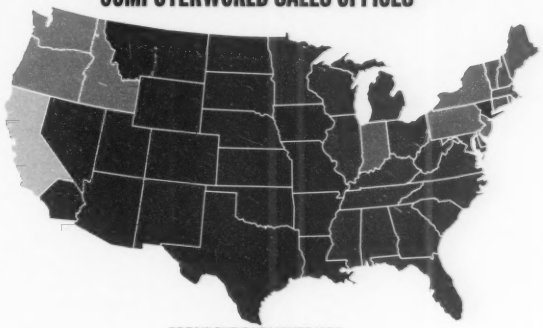

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Celtics Turn to Data Analytics Tool for Help Pricing Tickets

Team exec touts seven-figure ROI since last summer

BY HEATHER HAVENSTEIN

BOSTON CELTICS executives are taking advantage of a data analytics tool for the first time in their annual January task of setting prices for the 18,600 seats in TD Banknorth Garden.

The NBA team installed the StratBridge.net tool from Cambridge, Mass.-based StratBridge Inc. in August to monitor consumer demand through real-time displays of sold and available seats in its home arena. Now team officials are also using the tool during the monthlong project to set base ticket prices for the next season, officials said.

The new tool has helped the organization quickly develop promotions and sales strategies to fill available seats and to analyze revenue based on long-term sales trends, said Daryl Morey, senior vice president of operations and information for the Celtics.

Dynamic View of Trends

"Until we had this tool, it was very difficult to create dynamic packages, because our ticket providers didn't have a rapid way to see which seats were open," Morey said. "Now we can actually see in real time every single seat and how much it is sold for."

The basketball team has already seen a "seven figure" return on investment fueled by five-figure revenue boosts every one to two weeks since it began using StratBridge.net last summer, according to Morey.

Before using data analytics, sales executives used Excel spreadsheets to adjust pricing, Morey said. In that system, pricing could be adjusted only for all the seats within each of 12 large sections in the arena, he added.

"It was a leap of faith looking at the data at that level," Morey said.

Using the analytics tool, for example, planners found that ticket buyers tended to favor aisle seating in certain sections; as a result, the team now focuses on marketing the inner seats.

Now, in the ticket office, group- and individual-ticket sellers can see an image of the arena seating chart on a plasma TV screen with different color blocks indicating real-time availability and revenue for home games. Sales executives can access this information from their desktops to study buying trends and design new promotions.

"It spurs people to get more excited about their job — they are not waiting a month and a half for their commission check before they see the results of a sale," Morey said.

StratBridge.net extracts data from internal and external sources and displays it visually in Internet browsers and Microsoft Office applications. The analysis can be presented to users in Word, Excel, PowerPoint and Adobe PDF files.

Bill Hostmann, an analyst at Gartner Inc. in Stamford, Conn., said companies trying to market "perishable" products like basketball games, hotel rooms or live TV broadcasts are beginning to turn to this type of data analysis, which was first perfected in the airline industry.

"You're seeing more and more of this kind of analytical functionality being embedded in the application itself as a part of the process, as opposed to being done on a quarterly or weekly basis," Hostmann said. "The ROI is very fast on these types of applications."

WHEN THE PERFORMANCE of Paul Pierce and his teammates isn't selling out TD Banknorth Garden, the Celtics use a data analytics tool to come up with ticket prices that will put fans in the seats.

Continued from page 1

Web Services

The separate DCStat program uses Web services to monitor the delivery of municipal services.

Funded by a $1 million grant from the U.S. Department of Homeland Security, CapStat relies on an SOA foundation to overcome system and data incompatibility problems associated with retrieving and sharing disparate data, Thomas said.

CapStat uses Sonic Software Corp.'s enterprise service bus (ESB) technology to link the command centers and to publish and consume Web services, Thomas said. Thus, partners can share and consume data without having to alter existing systems, he added.

"The SOA model's loose coupling between services is the only practical way to implement and administer CapStat's distributed architecture," Thomas said. "[The ESB] traverses firewalls, routers and other network boundaries between partner organizations to create a shared message channel that is both secure and reliable."

Automatic Data Processing Inc. in Roseland, N.J., is rewriting all of the applications in its payroll and human resources arm as Web services that can be exposed to clients, said James Barry, ADP's vice president of application development. Barry declined to detail how many of the hundreds of applications have already been exposed as Web services, but he said that ADP is "far along" in its effort.

For example, employees at a large New York-based investment bank can already access payroll information from ADP as Web services on the bank's intranet, without having to sign on to ADP's Web site, Barry said.

Web services are also making it easier for ADP to import and export data between clients and its customized proprietary general-ledger systems, he added.

Third Generation

TrueCredit, a San Luis Obispo, Calif.-based division of TransUnion LLC, in October launched the third generation of its SOA to expose reused credit-monitoring and other Web services to banks and other commercial partners in the financial industry, said Scott Metzger, TrueCredit's chief technology officer.

The firm already provides reused Web services to consumers. It uses the same Web services interface for both the consumer and partner versions, Metzger said.

The Web services that the company wrote for consumers were built using BEA Systems Inc.'s WebLogic application server software.

The provider of credit scoring and related financial services began building Web services in 2000, Metzger said.

ADP first began building Web services in 2003.

William Mougayar, an analyst at Aberdeen Group Inc. in Boston, said that companies are beginning to expose Web services because doing so promises to make it possible to more quickly link with partners and customers.

In addition, he said, as vendors such as Oracle Corp., BEA Systems and IBM add support for Web services to their portal products, users are finding that the tools can let them more easily drag and drop services to a portal, where they can be organized and then made available to outside users.

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FRANK HAYES ■ FRANKLY SPEAKING

Getting It Right

JUST WHEN we think Microsoft finally understands the importance of security, we get this WMF fiasco. Here was a situation with all the makings of a catastrophe: a zero-day attack based on a long-standing design flaw, discovered at a time when everyone's on vacation, exploited using something as innocuous as a picture on a Web site. Microsoft's response? A crash holiday effort that produced a working, effective patch within days. Followed by a decision to *not* release the fix until the next monthly patch dump — and a public announcement of that decision so that every bad guy could declare open season on Windows PCs until Jan. 10. Followed, at last, by a decision to release the patch ahead of schedule after all.

That, finally, was the right decision. But why did Microsoft's management strain so mightily in the wrong direction before doing the right thing?

Microsoft programmers did their job. We know that because Microsoft's WMF patch showed up briefly on a security Web site a week before its scheduled release ("inadvertently," Microsoft said). Security gurus who examined it said it worked and didn't conflict with a non-Microsoft patch that was already available.

But Microsoft didn't release its patch then. Why not? The official answer: It wasn't thoroughly tested and available in all languages and for all versions of Windows. The scuttlebutt: Microsoft bigwigs didn't want "Microsoft Issues Emergency Fix" headlines and viewed the WMF threat as overblown — although, fortunately, *someone* in Redmond thought it was dangerous enough to build an emergency fix during the holiday break.

Let's be clear about this: Microsoft was right to reverse course. Those bigwigs who wanted to hold the patch were right to listen to customers and release it ahead of schedule. Yeah, the flip-flop looks embarrassing, and they'll take some flak for that. But they deserve thanks, not grief. Getting that patch out the door four days early *is* going to make a difference. We're all better off with the right decision than with a foolish consistency.

But, that said, why the heck did they get it so wrong in the first place?

They had options. They could have released a patch early and warned customers that it wasn't fully tested. They could have even called it a beta and asked customers for feedback, since no IT shop was going to put it into production without testing it.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com.**

Instead, amid growing concerns from security experts and hundreds of new WMF exploits and tools for bad guys, Microsoft kept saying customers should just tweak the Windows registry and wait for the next patch cycle.

Microsoft's decision-makers apparently got two things wrong. First, they underestimated the seriousness of the WMF threat. And second, they assumed that their estimate was the one that mattered.

They were wrong. Security decisions belong to IT shops. That's where the buck stops. That's where risk can be assessed. To patch or not, when to patch, what to patch — corporate IT has to make those choices.

Microsoft's role is to support those decisions, not preempt them. Holding up a fix because it's inconvenient or embarrassing or seems low-priority isn't the way to do it. Responding as fast as possible with the best Microsoft can deliver, so customers can choose what to do — that's the way to go.

This time, in the end, Microsoft listened to customers, delivered the goods and did the right thing. Eventually.

Almost exactly four years ago, Bill Gates wrote his "Trustworthy Computing" memo telling Microsoft employees to treat security as a top priority. Since then, we've been told, Microsoft has made great strides in improving its products' security. And it's clear from the fast, decisive action of Microsoft developers that they understand what's needed.

But it's just as clear that when it comes to figuring out security, Microsoft's management still has a long way to go. ▸

New Year, Same Old Users

It's end-of-year crunch time, and this order system's database is full. "We have to purge it and shrink it, like, yesterday," says IT pilot fish, "or our system is going to run like a snail until we do. Problem is, we find out our backups have been failing. The DBA doesn't have space for the backup and is having a technical issue backing up to a mount point. After everyone is apprised of the situation, the technical VP sends the following e-mail: 'What's the downside of purging without a good database backup?' "

SHARK TANK

FYI

IT department copier won't work for this software tester pilot fish – it won't even turn on – so fish reports the problem to the tech admin, who says she'll call the copier shop. It might be a power problem, fish suggests, so shouldn't you have that checked first? Not long after, an officewide e-mail circulates from tech admin: "Just an FYI, if you experienced problems printing to the IT copier after lunch, don't call the help desk. I kinda unplugged the hub that is under my desk to accommodate the new speakers for my PC, LOL. Sorry if this caused you all any inconvenience."

Syncing Feeling

VP's smart phone needs a software upgrade, so tech pilot fish starts by synchronizing the smart phone with the VP's PC. But the sync fails. Fish checks the log and learns that the last sync was months ago. Didn't I tell you that you need to sync the phone regularly to back up your data? says fish. VP: "I sync the phone every day. It just doesn't work, that's all." "OK," sighs fish, "in that case, you need to *successfully* sync the phone regularly."

Maybe One With A Straight Face?

Pilot fish gets a work request in the form of a text message on his pager: *Bart, can you speed up my buttons?* "When I contacted the user by phone, I told her I really didn't think I should be touching her buttons," fish reports. "She claimed it could be quite a learning experience. I sent another tech."

That's Why

This pilot fish watches as a new server is installed upstairs at the warehouse where he works. "All wiring had to be installed through the ceiling 25 feet up," says fish. "Our IT tech, who is brilliant with this, asked if I could do the wiring. I told him I don't have the skills for that. 'No problem,' he said, and walked me through it." Once the job is done and the server is working fine, fish is curious: Why pick me for this? he asks. IT tech: "I have a fear of heights."

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8:30am – 8:40am	**Introduction and Overview**
8:40am – 9:30am	**Market Outlook and Trends** Presented by IDC
9:30am – 10:00am	**The Agile IT Infrastructure** Frank Enfanto, Vice President, Health Care Services System Delivery, Blue Cross/Blue Shield of Massachusetts
10:00am – 10:15am	**Refreshment and Networking Break**
10:15am – 10:45am	**IT End-User Case Study** Bob Carroll, Chief Information Officer, The Apollo Group (The University of Phoenix)
10:45am – 11:15am	**IT Infrastructure at Maricopa Community College** Earl Monsour, Director, Strategic Information Technologies, Maricopa Community College District
11:15am – Noon	**Panel Discussion: Creating an Agile Enterprise IT Architecture is Easier Said than Done** Moderator: Julia King, National Correspondent and Executive Editor, Events, Computerworld Panelists: Frank Enfanto, Vice President, Health Care Services System Delivery, Blue Cross/Blue Shield of Massachusetts Bob Carroll, Chief Information Officer, The Apollo Group (The University of Phoenix) Earl Monsour, Director, Strategic Information Technologies, Maricopa Community College District Gary Greenwald, Vice President, Application Engineering and Operations, Ameritrade
Noon	**Optional Luncheon**

Selected speakers include:

Frank Enfanto
Vice President, Health Care Services System Delivery Blue Cross/Blue Shield of Massachusetts

Bob Carroll
Chief Information Officer The Apollo Group (The University of Phoenix)

Earl Monsour
Director, Strategic Information Technologies Maricopa Community College District

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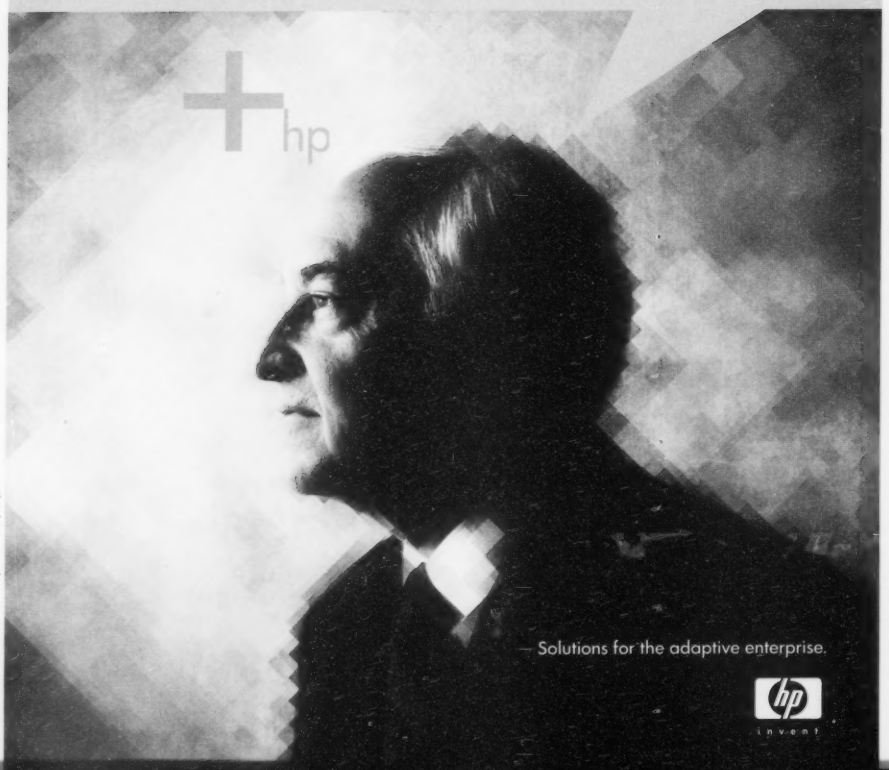

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